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Strategies to Improve Engagement Among Public Sector Information Technology Employees

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This is to certify that the doctoral study by

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2017

Abstract

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Abstract

Disengaged employees decrease organizations' efficiencies and profitability. Engaged employees provide greater productivity and performance while being less likely to incur job burnout and exhaustion. However, public sector organizational leaders still struggle to engage their information technology (IT) employees. Partnering with a large public sector organization in the Phoenix, Arizona, metropolitan area, in a case study design, this study explored the strategies that public sector business leaders use to increase productivity through engaging IT employees. The conceptual framework for this study was the job demands-resources framework. Four participants were selected through purposeful sampling from a population of 7 IT leaders who had successfully increased employee engagement and their teams' performance. After collecting data through in-person semistructured interviews from 4 participants, member checking, and organizational documentation, an iterative pattern-matching data analysis process revealed key themes from coded words and phrases. The themes were also verified through methodological triangulation through comparisons with related organizational documentation. The key themes for engaging public sector IT employees were developing positive relationships, providing empowerment with support, and connecting work with meaningful purpose. Each theme included specific supporting implementation strategies. The implications for social change are that engaged employees are less likely to experience job burnout and incur fewer health problems, and therefore have a greater capacity to care for family, friends, and communities.

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Dedication

Without women throughout history who were willing to take risks and create change, I would not have had the opportunities afforded me to work and lead in a technical field or pursue an advanced educational degree. I am also inspired by the daily examples I encounter of women leading and working to create a better future for all of us. I dedicate this endeavor to improve myself, and better serve those around me, to those women who have created a path and inspiration for me.

Acknowledgments

I am so grateful for both the academic and emotional support provided to me over the course of this journey. My chair, Dr. Denise Land, provided expert guidance and feedback. She also created an environment within her group of mentees in which we could support each other in our goals, for which I am grateful. I knew the first time I met her that Dr. Land would challenge and support me to be my best. Her patience helped me be more patient with myself. I would also like to thank Dr. Jaime Klein, as my second committee member, for her subject area expertise, additional perspective, and detailed feedback which contributed to the improvement of my study. I am grateful to Dr. Al Endres for taking time to review my study and ensure I maintained high academic standards. I hope to apply the lessons I have learned from my chair and committee members to my leadership practices.

I received a great deal of support from family, friends, and coworkers who believed in me even when I doubted myself. I know I am fortunate to have been told from an early age that I could accomplish any goal. Support from Valerie, as well as from Melissa and Michelle, came at just the right time and represented a turning point in my progress; you truly are the golden girls! Thank you, Shawn, for all of your support but especially for sharing my excitement for adding a sticker to my sticker charts.

Finally, I appreciate the organization and leaders who were willing to share their expertise. I learned from this process as well as from their experience and am grateful.

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Section 1: Foundation of the Study

Business leaders implement strategies for improving the performance of their departments and the organizations in alignment with strategic plans. As a primary resource for many organizations, employees directly contribute to the success of both new and established organizations (Gorgievski, Moriano, & Bakker, 2014; Kumar & Pansari, 2016). Business leaders in information technology (IT) face additional challenges due to the changing role of IT professionals (Gallagher, Gallagher, & Kaiser, 2013). Researchers have noted relationships between engaged employees and desirable organizational outcomes. Some of these findings include increased effectiveness, productivity, customer satisfaction, and profitability (Kumar & Pansari, 2016; Valentin, Valentin, & Nafukho, 2015).

Engaged employees experience better health and more positive emotions while decreasing exhaustion and burnout (Bakker, 2011). Researchers studying increases in employee engagement in organizations have concluded that significant increases in employee engagement (from moderate to high) coincide with significant increases in investor earnings (an average of 132% per share) (Kumar & Pansari, 2014). I explored strategies business leaders implement to increase productivity through engaging employees.

Background of the Problem

Engaged employees experience positive internal and external outcomes, which improves organizational effectiveness, productivity, and revenue (Valentin et al., 2015). Components of employee engagement include the feeling or belief that work is personally meaningful, intrinsically rewarding, includes an element of self-management, and that the employee is valued (Breevaart, Bakker, & Demerouti, 2014; Claxton, 2014; Sinha & Trivedi, 2014). Researchers have identified relationships between employee engagement and positive work attributes including organizational citizenship behavior (Kataria, Garg, & Rastogi, 2013; Rana, Ardichvili, & Tkachenko, 2014). Employee engagement is related to organizational effectiveness, performance, and increased profitability (Anitha, 2014; Kataria, Rastogi, & Garg, 2013; Kumar & Pansari, 2014). While most managers recognize the importance of employees in the success of their organization, business leaders need strategies for increasing employee engagement (Kumar & Pansari, 2016). Researchers have identified a need for specific actions business leaders can take to improve engagement among IT employees (Barbars, 2015; Gan & Gan, 2014). However, the increase in employee engagement research has not resulted in increased employee engagement (Saks, 2017). Business leaders need additional guidance to identify and apply strategies for increased employee engagement.

Problem Statement

Engaged employees demonstrate greater levels of productivity, performance, positive emotion, good health, and creativity while avoiding exhaustion and burnout (Bakker & Xanthopoulou, 2013; Demerouti, Bakker, & Halbesleben, 2015). Disengaged employees exhibit burnout behaviors including cynicism, exhaustion, and inefficiency contributing to decreased productivity (Cerasoli, Nicklin, & Ford, 2014; Gan & Gan, 2014). Even slight decreases in employee engagement cost some U.S. organizations an average profit decrease of 8% per year (Kumar & Pansari, 2016). The general business problem is disengaged employees negatively affect organization productivity. The specific business problem is that some public sector business leaders lack strategies to increase productivity through engaging IT employees.

Purpose Statement

The purpose of this qualitative single case study was to explore the strategies that public sector business leaders use to increase productivity through engaging IT employees. The targeted population consisted of approximately seven public sector IT managers and their employees within a single public sector organization in Arizona who have successfully increased productivity through engaging employees. As engaged employees experience less exhaustion and improved physical and mental health, managers who improve employee engagement could contribute to effecting beneficial social change by improving the interpersonal relationships of employees and facilitating employees' ability to support their communities.

Nature of the Study

For this study, I selected the qualitative research method. Qualitative researchers understand that individuals continuously construct meaning from observations and patterns as they relate to one another and their environments (Stake, 2010). According to Landrum and Garza (2015), researchers utilize the qualitative method to inductively study their topic using nonnumeric data presented in a narrative form. In contrast, researchers use quantitative methods to deductively analyze relationships and differences among variables (Landrum & Garza, 2015). Researchers who employ the mixed method use both quantitative and qualitative methods due to the nature of their research question

(Fetters, Curry, & Creswell, 2013). Qualitative methods were appropriate for this study exploring the strategies that public sector business leaders use to increase productivity through engaging IT employees.

Case study research design is appropriate when exploring contemporary activities over which the researcher has no behavioral control (Yin, 2014). Mukhopadhyay and Gupta (2014) identified case study to be the most rigorous and ubiquitous research design. Other designs I considered included ethnography, phenomenology, and historical research design. Researchers use ethnographic research design when spending extensive time in the field exploring particular group cultures (Yin, 2014), which was not the purpose of this study. If philosophical reflection and understanding of lived experiences were my research goal, I would have selected phenomenological research design (Van Manen, 2014). While using a historical research design could provide insight into past management practices, case study research design is appropriate to explore current practices (Yin, 2014). I selected descriptive case study as my research design based on a constructivist worldview.

Research Question

The central research question for this study was: What strategies do public sector business leaders use to increase productivity through engaging IT employees?

Interview Questions

In a semistructured interview format, IT managers responded to the following open-ended questions regarding their strategies for engaging employees.

1. How do you know whether IT employees are engaged?

2. What strategies have you employed that resulted in increased engagement among IT employees?
3. What engagement methods worked best to increase productivity among IT employees?
4. What strategies have you, or another IT manager you observed, implemented that resulted in decreased engagement among IT employees?
5. Describe how your strategies for increasing employee engagement help IT employees meet the challenges of their roles?
6. Describe how your strategies for increasing employee engagement provide autonomy and opportunities for employee development?
7. What else would you like to share with me about strategies IT managers use to increase engagement among IT employees?

Conceptual Framework

Some qualitative researchers choose to explicitly identify a conceptual framework they expect could enable them to understand the findings for addressing their research question (Green, 2014). The conceptual framework for this study was the job demands-resources model of engagement. Demerouti, Bakker, Nachreiner, and Schaufeli (2001) first applied the job demands-resources model to explain the concept of burnout to other occupations beyond human services workers. Researchers later applied the model to employee engagement (Bakker, 2011; Crawford, LePine, & Rich, 2010). Researchers defined job demands as job characteristics with physiological costs such as the work environment and workload. However, job resources consist of supports such as autonomy, coaching, and opportunity for development which can alleviate the pressure of job demands (Crawford et al., 2010).

Researchers discovered that the demands of IT workers' jobs and the resources available could affect employee engagement (Gan & Gan, 2014). Leaders can improve productivity through engagement using information about how job resources and demands relate to workers' engagement (Demerouti et al., 2015). The job demands-resources framework was expected to apply to this study because it can provide a lens for understanding the strategies leaders employ to increase motivation and employee engagement in the workplace.

Operational Definitions

Employee engagement: Researchers define employee engagement as a positive state of mind consisting of absorption, vigor, and dedication related to work (Petrou, Demerouti, & Schaufeli, 2016).

Job demands: Bakker (2014) has defined job demands as tasks, responsibilities, and expectations of a job for which employees must expend physical or mental effort.

Job resources: Bakker (2014) has defined job resources as aspects of a job that enhance an employee's ability to attain goals, reduce the negative effect of job demands, or enable personal improvement.

Personal resources: Researchers define personal resources as personal characteristics contributing to positive self-regard and goal attainment that include self-efficacy, internal locus of control, and intrinsic motivation (Van Wingerden, Derks, & Bakker, 2017).

Public sector organization: A public sector organization is an organization that exists to provide services to the public, in contrast to a private sector organization that has a primary purpose of seeking profits (Eldor, Harpaz, & Westman, 2016).

Assumptions, Limitations, and Delimitations

Assumptions

Business leaders seeking to improve their practice must understand the underlying assumptions within a research study (Kirkwood & Price, 2013). Qualitative researchers conduct their studies with some unverified beliefs, or assumptions, which should be analyzed and presented to the reader (Marshall & Rossman, 2016). Kirkwood and Price (2013) defined assumptions as a researcher's beliefs including the efficacy of selected research methods to obtain relevant data. In this study, my assumptions included the veracity of interview respondents and my capability to perform qualitative research with guidance from my Walden University chair and committee members. I expected interviewees to respond to interview questions truthfully and comprehensively. To mitigate this assumption, I reassured participants of the confidentiality of their responses and probed for additional information during the semistructured interview process. Because of my professional experiences, university coursework, doctoral committee, and independent study, I applied established methods to conduct research and interpret results. To mitigate the assumption regarding my capability, I followed established Walden University processes, adhered to recommendations from my doctoral chair and committee, and supported research process decisions and interpretations with scholarly research references.

Limitations

Limitations are weaknesses of a study, sometimes related to research design, and are beyond the researcher's control (Connelly, 2013). Understanding limitations can help readers know the extent to which findings apply beyond the specific research study (Kirkwood & Price, 2013). When using case study design, researchers acknowledge the limitation that their results may not apply to other populations (Yin, 2014). Researchers can further limit their research through the selection of a population and definition of successful practices (Marshall & Rossman, 2016). As this was a single case study, a limitation included the limit of transferability beyond the examined case to other populations. In future studies, researchers could identify whether or not the results are consistent with other populations.

Delimitations

Researchers define boundaries, or delimitations, of a study based on the research question, conceptual framework, and selected research design (Marshall & Rossman, 2016). For case study design, the boundaries of the case represent the boundaries chosen for the geographic region, organization, groups, and other characteristics (Yin, 2014). The scope of this single case study was the employee engagement strategies IT leaders use within the subject organization. The sample population included IT managers within the subject organization located in the Phoenix, Arizona, metropolitan area.

Significance of the Study

The purpose of this case study was to explore strategies public sector leaders use to increase productivity through engaging IT employees. Leaders within competitive organizations use continuous improvement as a strategy to distinguish themselves in the marketplace (Brajer-Marczak, 2014). A lack of employee engagement strategies is a potential threat to continuous business process improvement (Brajer-Marczak, 2014). Identification of strategies for increasing employee engagement could enable other business leaders to adopt similar strategies.

Helping public sector IT managers identify and implement strategies for improving productivity through employee engagement could contribute to social change through improving employee satisfaction and health (Bakker, 2011; Sarangi & Vats, 2015). Engaged employees flourish and experience both better mental health and less exhaustion and burnout (Bakker, 2011; Diedericks & Rothmann, 2013). As employees experience less burnout and fewer health problems, they will have a greater capacity to care for family, friends, and their communities while being healthier and happier members of society.

A Review of the Professional and Academic Literature

The purpose of this qualitative case study was to explore the strategies that public sector business leaders use to increase productivity through engaging IT employees. The conceptual framework for this study of employee engagement was the job demands-resources model. In this research-based model, employees experience enhanced work engagement from challenging job resources or demands (Tims, Bakker, & Derks, 2013). In contrast, employees experience lower engagement and possible exhaustion and burnout if they perceive job demands to be hindrances (Tims, Bakker, & Derks, 2013). Similarly, insufficient job resources can cause burnout (Consiglio, Borgogni, Alessandri,

& Schaufeli, 2013). To varying degrees, employees have personal resources which could also increase their work engagement (Van Wingerden et al., 2017). Through job crafting, employees can make adjustments to their job demands and resources, but the nature of their jobs can limit the potential for these changes (Tims, Bakker, Derks, & van Rhenen, 2013). In this literature review, I analyzed studies related to employee engagement, the job demands-resources framework, personal resources, and application of these studies for public sector and IT professionals.

Literature Search Strategy

To review and synthesize literature related to the research question, I followed steps outlined by Machi and McEvoy (2012). I selected my topic, searched the literature, developed an argument, surveyed and critiqued the literature, and wrote my review. Using search engines such as Google Scholar and databases including ProQuest, Science Direct, Business Source Complete, Emerald Management, and Academic Source Complete, I searched for terms related to the research question. Some search terms included *employee engagement, work engagement*, *job demands-resources framework*, *public sector, information technology*, *personal resources*, and *job crafting*. I also identified seminal works related to employee engagement and my conceptual framework and then searched for recent research citing those publications. The complete list of references includes 184 sources, 89% of which are both peer-reviewed and have publication dates within 5 years of the expected year of Walden approval of my study. Of the 121 references within this literature review, 96% are peer reviewed and 90% have publication dates within 5 years of the expected year of Walden approval of my study.

Employee Engagement

The definition of employee engagement has evolved, and some definitions are in contrast to burnout. In the original definition, Kahn (1990) described employee engagement as a cognitive, emotional, and physical state in which employees contribute more of their true self to their work. When analyzing employee burnout, Maslach, Schaufeli, and Leiter (2001) defined engagement as consisting of energy, involvement, and efficacy. In contrast, employees experiencing burnout exhibit the characteristics of exhaustion, cynicism, and inefficiency (Maslach et al., 2001).

The definition of the construct of employee engagement varies among studies (Valentin et al., 2015). Valentin et al. (2015) contended that this variation in employee engagement definitions could have created gaps in the literature. Kumar and Pansari (2014) agreed and developed their definition of employee engagement by interviewing managers in the field. Kumar and Pansari defined employee engagement as the attitudes and behaviors of employees that indicate levels of satisfaction, dedication, and performance. Valentin et al. included the caveat that this attitude and state of mind results in positive outcomes for individual employees and their organizations. In studying employee burnout, Schaufeli, Salanova, González-Romá, and Bakker (2002) arrived at a similar definition of engagement with the principal components being absorption, vigor, and dedication. Other researchers have included these elements in their definitions of employee engagement (Eldor & Vigoda-Gadot, 2017; Schullery, 2013; Strom, Sears, & Kelly, 2014). Because it includes components related to the emotional and intellectual state as well as the attitude of an employee, I selected the definition of employee engagement for my study as consisting of absorption, vigor, and dedication.

Engaged employees can also be highly performing employees. Researchers have defined job performance as involving task performance, organizational citizenship behavior (i.e., altruism), and the elimination of counterproductive work behavior (Demerouti et al., 2015). Hoon Song, Hun Lim, Gu Kang, and Kim (2014) concluded that teams comprised of engaged employees exhibit better performance than those consisting of less engaged employees. In a phenomenological research study within the aerospace industry, 80% of research participants experienced greater productivity as their level of employee engagement increased (Richards, 2013). Similarly, after examining 120 organizations around the world, Kumar and Pansari (2016) concluded that profit increases were related to increases in employee engagement. In their research regarding organizational alignment, engagement, and performance, Alagaraja and Shuck (2015) identified alignment between organizational systems, job characteristics, and individual attributes as the dynamic model linking personal engagement and performance. Through their studies, each of these researchers highlighted the relationship between engagement and performance.

However, performance is only one area where engaged employees can excel. In addition to performance, engaged employees also exhibit better health and positive emotions as compared to their nonengaged peers (Anitha, 2014; Bakker, 2011). Researchers have identified an inverse relationship between employee engagement and both turnover intentions and deviant work behavior (Shantz, Alfes, & Latham, 2016). Because engaged employees exhibit a more positive attitude towards work than their nonengaged peers, they can also have more positive experiences beyond the workplace (Daniel & Sonnentag, 2014). Some researchers have found that both intrinsic and extrinsic factors contribute to increased employee engagement (Azoury, Daou, & Sleiaty, 2013). However, Delaney and Royal (2017) attributed most motivation for engagement to intrinsically motivating workplace practices. Although the causes of employee engagement can vary, employees experience benefits beyond performance (Anitha, 2014; Bakker, 2011).

Although employees can be motivated to work more, engaged employees are not the same as workaholic employees. While both types of employees demonstrate positive job performance and innovative behavior, engaged employees report experiencing a positive affective state while workaholic employees report having a negative affective state (Gorgievski et al., 2014). Researchers have identified a positive relationship between engagement, business growth, and business success (Gorgievski et al., 2014). In contrast, researchers have discovered a connection between workaholic employees and a lack of both business growth and business success (Gorgievski et al., 2014). In a study of the relationship of work engagement to gender, researchers suggested that female workers are more likely than their male counterparts to suffer adverse effects of engagement and become burned out due to different home-life expectations (Banihani, Lewis, & Syed, 2013). Although employees in Western cultures could be more engaged than in Eastern cultures, these cultural differences might not exist related to workaholic employees (Hu et al., 2014). Additional research related to gender roles, culture, and engagement could provide more insights regarding these relationships.

Researchers can choose to conduct further research using the Utrecht Work Engagement Scale (UWES). UWES is a reliable and valid instrument for measuring employee engagement through absorption, dedication, and vigor across cultures, according to some researchers (Kataria, Garg et al., 2013; Lu, Wang, Lu, Du, & Bakker, 2014). UWES requires employees to self-report responses using a Likert-type scale. Some researchers using this instrument design their studies with self-selected participation (Breevaart et al., 2014). Breevaart et al. (2014) postulated that in studies where participation is self-selected, engaged employees are more likely to participate thus affecting results. Although researchers have demonstrated employee engagement is a unique psychological state (Eldor & Vigoda-Gadot, 2017), critics have suggested some questions on the UWES overlap with related constructs such as job satisfaction and organizational commitment (Saks, 2017). Overlapping constructs, self-reporting, and self-selection can influence employee engagement research.

Employees can also respond to surveys differently depending on the time of day. Self-evaluations such as UWES measure *general* levels of engagement, while employee engagement can change as employees shift from task to task during the day (Bakker, 2014). While quantitative daily diary studies can capture changing levels of daily engagement (Bakker, 2014), researchers also use qualitative research methods (Medhurst & Albrecht, 2016). Through qualitative methods, researchers can increase understanding of fluctuation in engagement levels through contextual and observational information (Medhurst & Albrecht, 2016). As most existing research regarding employee engagement has been quantitative, there is a need for additional qualitative research (Kaliannan &

Adjovu, 2015; Medhurst & Albrecht, 2016). Through the use of qualitative research methods in this study, I sought to contribute to research related to employee engagement for improving both employees' satisfaction and performance.

Managers could benefit from viewing employee engagement as a continuum. Employees are not engaged to the same degree, or consistently in all engagement components, at all times (Tims, Bakker, & Derks, 2014; Valentin et al., 2015). While unengaged, employees can be costly to an organization (Valentin et al., 2015). By viewing each component of engagement as a continuum, managers could use successful strategies to encourage engagement. The following headings contain an analysis of the research on absorption, dedication, and vigor as they relate to employee engagement.

Absorption. Employees demonstrate absorption when they are focused on a task and do not notice the passage of time (Schaufeli et al., 2002). A state of absorption known as *flow* exists when individuals are concentrating on the task at hand and intrinsically motivated to continue based on comparable levels of skill and challenge as well as the goals and feedback obtained from the activity (Llorens, Salanova, & Rodríguez, 2013; Mao et al., 2016). Maslow (1943) identified self-actualization, or the application of expertise, as the highest level of his hierarchy of human needs. Employees can also experience *eudemonia*; happiness that results from personally meaningful and fulfilling experiences (Medhurst & Albrecht, 2016). As employees apply their skills to appropriate challenges, they could be experiencing happiness and realizing their need for self-actualization.

How employees perceive the work environment can influence their experience of flow. Peters, Poutsma, Van der Heijden, Bakker, and Bruijn (2014) studied the relationship between several variables and flow. After analyzing data from managers and staff across 30 public and private organizations in the Netherlands, the researchers discovered a positive correlation between flow and the variables of job autonomy, leadership support, peer support, peer commitment, and teleworking (Peters et al., 2014). Peters et al. did not find a relationship between flow and empowerment practices (such as autonomy, teamwork, goals, and deadlines). The finding in this regard suggests that when implemented as a top-down approach, these practices can create stressors and prevent increased flow among employees (Peters et al., 2014). However, Peters et al. found a positive association between flow and an employee's perceived level of job autonomy. These contradictory findings suggest managers seeking to improve absorption must consider how employees perceive leadership actions.

In addition to challenge and a sense of autonomy, researchers identified other requirements for effecting a state of flow. Young and Steelman (2017) demonstrated that while autonomy is positively associated with engagement, employees with autotelic personalities who enjoyed completing tasks for their intrinsic value also had increased levels of engagement. In their qualitative exploration of engagement and flow among sales professionals, Medhurst and Albrecht (2016) discovered that intrinsic interest and goal clarity were also necessary components for flow. However, Llorens et al. (2013) reached a different conclusion after reviewing data from 957 employees in service professions. Although Llorens et al. identified enjoyment and absorption to be requirements for flow; they concluded that intrinsic interest was not a requirement.

Additional research could clarify the role of intrinsic interest in task absorption and flow.

Dedication. Researchers have defined dedication as an employee's affective experience of pride and enthusiasm (Schaufeli et al., 2002). Employees can demonstrate this affective domain through excitement and positive emotions related to work (Medhurst & Albrecht, 2016). Researchers have identified positive results of dedication as being internal or external, meaning they are experienced by the employee or by the organization (Valentin et al., 2015). As it relates to employee engagement, researchers can view dedication through the lens of dedication to tasks or dedication to an organization.

Task dedication. Engaged employees typically exhibit dedication towards work tasks they perceive as meaningful. Researchers have identified a statistically significant relationship between engagement and affective commitment, or the feeling of engaging in meaningful work with the necessary resources to accomplish goals (Ibrahim & Falasi, 2014). In the service industry, researchers have studied strategies to increase employee engagement as a way to improve customer service and financial performance (Menguc, Auh, Fisher, & Haddad, 2013). Whether managers or employees implement strategies to make work tasks more meaningful, employees can experience increased engagement as a result (Breevaart, Bakker, Demerouti, & Derks, 2015). However, in addition to task dedication, employees can experience organizational dedication.

Organizational dedication. Engaged employees typically exhibit dedication towards their organization. Engaged employees usually demonstrate elevated levels of organizational commitment, even when their length of current employment varies

(Agyemang & Ofei, 2013). In a proposed theoretical model of engagement, Rana et al. (2014) identified improved organizational citizenship behavior and decreased turnover intentions as outcomes of employee engagement. Engaged employees typically recognize the cost of leaving an organization which can lead them to exhibit higher levels of loyalty and continued commitment than their nonengaged peers (Ibrahim & Falasi, 2014). Also, Boon and Kalshoven (2014) demonstrated that increased organizational commitment occurs when leaders engage employees through empowering them to make decisions within domains where employees have performed proficiently. The findings from this research suggest organizations benefit from engaged employees.

However, employee levels of organizational dedication can vary. Employees' perceptions of organizational policies and practices can decrease organizational dedication (Alagaraja & Shuck, 2015). Employees who do not identify with an organizational mission can become disengaged and negatively affect productivity (Hollis, 2015). Additionally, employees demonstrate decreased commitment to an organization when cutbacks reduce resources, even if the demands of their jobs remain consistent (van der Voet & Vermeeren, 2017).

Vigor. Researchers have defined vigor as a feeling of energy along with persistence when faced with challenges (Schaufeli et al., 2002). Employees can demonstrate vigor through determination, effort, and drive to complete objectives (Medhurst & Albrecht, 2016). Moazami-Goodarzi, Nurmi, Mauno, and Rantanen (2014) predicted that vigor in the workplace could have positive benefits outside of work. To test this hypothesis, the authors performed a longitudinal study of 700 university employees in which they found bidirectional support between vigor at work and home (Moazami-Goodarzi et al., 2014). Employees who increased their level of vigor at work over time also increased in vigor at home (Moazami-Goodarzi et al., 2014).

Research regarding *grit* can be relevant to the study of vigor. The characteristics of vigor are similar to those of grit, which researchers have defined as pursuing goals with enthusiasm and hard work (Von Culin, Tsukayama, & Duckworth, 2014). Employees who demonstrate characteristics of grit are more likely to be engaged at work and, as a result, have increased performance (Suzuki, Tamesue, Asahi, & Ishikawa, 2015). Based on this information, employees with grit provide benefits to the organization similar to employees with vigor.

Researchers have demonstrated connections between individual levels of grit and preferred approaches to the pursuit of happiness. Von Culin et al. (2014) compared individual levels of grit with pleasure, meaning, and engagement as three distinct types of happiness. Individuals pursuing engagement indicated the highest amount of grit, followed by those who pursued meaning and finally those who pursued pleasure (Von Culin et al., 2014). However, these associations can be culturally related. In a study of Japanese workers, employees with the highest levels of grit were those who pursued meaning, followed by those who pursued engagement (Suzuki et al., 2015). Additional research could illuminate the causes for potential cultural differences in orientations toward happiness and grit.

Job Demands-Resources Framework

Business researchers can choose to view employee engagement through the lens of a variety of conceptual frameworks. A researcher performing qualitative research can explicitly select and describe a conceptual framework expected to relate to understanding the findings for addressing their research question (Goldberg & Allen, 2015; Green, 2014). I considered and rejected several conceptual frameworks for this study including Maslow's hierarchy of needs, transformational leadership theory, organizational culture theory, and self-determination theory. Maslow (1943) described the intrinsically motivated progression of individuals through a hierarchy of needs. Within this hierarchy, humans' primary needs include physiological, safety, belonging, and love followed by esteem and self-actualization (Maslow, 1943). Burns (1978) defined transformational leadership theory as a leadership style emphasizing the motivational value of shared goals between leaders and employees. Similarly, in organizational culture theory Schein (2010) highlighted the responsibility of leaders in recognizing and shaping alignment between the culture of an organization and the behaviors, values, and assumptions necessary for success. Deci and Ryan (2012) established the theory of self-determination as they recognized the effects of specific psychological needs (autonomy, relatedness, and competence) on health and productivity. Although each of these alternative theories could provide an interesting lens through which to view employee engagement, I did not select them.

The conceptual framework I selected for this study is the job demands-resources framework. Bakker (2011) proposed the job demands-resources model as a framework for understanding how job resources and job demands can affect employee engagement. All of the frameworks I considered are valuable perspectives for understanding how the needs and motivations of an individual relate to organizational effectiveness. However, Bakker aligned the job demands-resources framework directly with employee engagement while I found more tangential alignment between other researchers' frameworks and employee engagement. In some theories of employee engagement, researchers focused on characteristics of the employees (Crawford et al., 2010). Contrastingly, researchers using the job demands-resources model concentrate on the job itself, including the work environment, to provide actionable research for business leaders (Crawford et al., 2010). I believe that the job demands-resources framework was appropriate for exploring strategies managers can use to improve employee engagement through defining jobs and designing the system in which employees operate.

When developing employee engagement theories, researchers identified similar components to those constructs in the job demands-resources framework. Rana et al. (2014) proposed the following antecedents of employee engagement: (a) job characteristics, (b) relationships with peers and supervisors, (c) workplace environment, and (d) human resources development practices. Gallagher et al. (2013) proposed that affiliation, achievement, dominance, autonomy, and cognition create similar outcomes for IT professionals. After conducting a literature review of employee engagement, Brajer-Marczak (2014) identified eight characteristics that either catalyzed or sustained employee engagement. Brajer-Marczak included leadership, trust, autonomy, proper assignment of tasks, and environmental features such as appreciation, communication, and innovation in the list. Correspondingly, researchers using the job demands-resources framework are not alone in identifying characteristics of the job and workplace as influencing employee engagement.

The job demands-resources framework is a potential lens through which researchers and practitioners can develop strategies for employee engagement. Researchers have applied the job demands-resources framework in fields such as health care in which burnout has been more extensively studied (Demerouti et al., 2001). Furthermore, researchers have demonstrated connections between the job demands-resources framework and both employee and team engagement (Costa, Passos, & Bakker, 2014; Crawford et al., 2010; Tims, Bakker, Derks et al., 2013). Employees can view some characteristics of the workplace as job demands or job resources depending on the context and the individual (Yanchus, Fishman, Teclaw, & Osatuke, 2013). In the following headings, I described job demands, job resources, and their effects on employee engagement.

Job demands. Job demands are tasks, responsibilities, and expectations employees must address as part of their professional roles. Specifically, job demands can include workload, deadlines, and supervisor or customers' expectations (Rana et al., 2014; Schaufeli et al., 2002; Van Wingerden et al., 2017). In some roles, employees face more demands of an emotional nature than in others (Xanthopoulou, Bakker, & Fischbach, 2013). Specific job demands vary by organization and job role. IT professionals, in particular, could find job demands to include role ambiguity, communication obstacles, organizational changes, and the conflict between work and family expectations (Gan & Gan, 2014).

Employee perceptions can influence the effect of job demands on engagement.

Researchers discovered employees working in a psychologically safe environment of mutual understanding and respect did not experience decreased engagement when job demands increased (Garrick et al., 2014). Similarly, Crawford et al. (2010) performed a meta-analysis of literature and concluded that although job resources were consistently positively related to employee engagement, the relationship between job demands and employee engagement varied across studies. Using the transactional theory of stress, Crawford et al. argued this inconsistency is due to different types of job demands. Consequently, the authors divided job demands into those perceived by employees as challenges and those perceived as hindrances (Crawford et al., 2010). In their analysis, the authors identified a positive relationship between job demands perceived as challenges and employee engagement, and a negative relationship between job demands perceived as hindrances and employee engagement (Crawford et al., 2010). How employees perceive job demands determines the relationship with engagement (Crawford et al., 2010).

Hindrances. Researchers have concluded that job demands perceived as hindrances diminish employee engagement (Crawford et al., 2010). Employees who experience significant hindrances within their role can experience exhaustion and burnout (Crawford et al., 2010). When faced with emotional work demands, even employees who demonstrate high levels of optimism could not maintain high levels of work engagement (Xanthopoulou et al., 2013). Similarly, employees who find meaning in their work could still perceive the workload and interpersonal conflict as hindering job demands (Yanchus et al., 2013). However, employees do not perceive all job demands as hindrances

(Crawford et al., 2010).

Challenges. Employees could perceive some job demands as challenges. Researchers have noted that job demands perceived as challenges can increase employee engagement (Crawford et al., 2010). Moreover, some individuals with specialized technical skills need constant challenges as a motivational factor (Gallagher et al., 2013). Employees who participate in challenging activities also report an increase their skill level (Mao et al., 2016). An employee could be more likely to view job demands as challenges depending on their mindset (Keating & Heslin, 2015).

When employees are working on challenging job demands, they could reach states of high engagement. Researchers have identified a state of high engagement, or flow, as similar to the common phrase *being in the zone* (Mao et al., 2016). When engaged in group activities with varying levels of skill and challenge, participants from multiple countries reported the highest experiences of flow for group activities in which they were both highly skilled and highly challenged (Mao et al., 2016). When operating in a state of flow, employees perceive work tasks as fun, which is related to increased engagement (Plester & Hutchison, 2016). This research helps explain why employees who perceive job demands as challenges have increased engagement.

Job resources. Employees use job resources as they accomplish tasks. Job resources include autonomy, positive relationships, supervisor feedback, individual abilities, and opportunities for growth within the work environment (Bakker, 2011). After performing a meta-analysis of research regarding the job resources-demands model as it relates to burnout and employee engagement, Crawford et al. (2010) noted evidence to support a positive relationship between job resources and employee engagement and a negative correlation between job resources and burnout. Therefore, employees with job resources are more likely to be engaged and less likely to experience burnout. Researchers have identified some key job resources as autonomy, relationships with supervisors, and environmental supports.

Autonomy. Autonomy is a job resource similar to empowerment in which employees exercise intrinsic motivation to accomplish tasks based on meaning, competence, self-determination, and results (Ugwu, Onyishi, & Rodríguez-Sánchez, 2014). Through empowerment, autonomous employees self-initiate and self-regulate their work (Valentin et al., 2015). Accordingly, empowered employees can demonstrate improved performance, but employee engagement mediates the relationship between empowerment and performance (Karatepe, 2013). Researchers noted a positive relationship between autonomy and engagement in the service industry (Menguc et al., 2013). Furthermore, researchers identified a positive correlation between autonomy and engagement through longitudinal studies in which participants used daily diaries to record engagement levels and self-management behaviors (Breevaart et al., 2014). However, Ugwu et al. (2014) conducted a study in Nigeria and discovered that autonomy was a greater predictor of engagement among junior level employees as compared with senior level employees. Ugwu et al. postulated that the changing economy and job instability had created anxiety and disengagement of the workforce, which could have influenced the authors' study results.

Some employees practice autonomy by working outside of the workplace.

Employees who had the opportunity to work remotely at least 1 day per week reported higher levels of task absorption, enjoyment, and intrinsic motivation than peers who did not work remotely (Peters et al., 2014). However, employees working from home or office should be cognizant of how many hours they work as working more hours each day does not always result in increased business performance (Gorgievski et al., 2014). Fortunately, as employees are better able to recover outside of work, they can be more engaged while working (Bakker, 2014).

Unfortunately, when working from home outside of work hours, employees can experience work-home interference (WHI), or conflict between the roles of an employee in the separate domains of work and home (Derks, Duin, Tims, & Bakker, 2015). Using convenience sampling, Derks et al. (2015) evaluated quantitative data collected through daily diaries over the course of four days from 79 participants. Some participants worked as IT professionals, and all participants worked full time and had smartphones provided by their employers (Derks et al., 2015). Derks et al. discovered a higher rate of smartphone use and WHI among employees with supervisor expectations and workplace norms regarding availability outside of work hours. Derks et al. also noted that engaged employees experienced less WHI even on days of high smartphone use than disengaged employees. Engaged employees appear to be better able to maintain appropriate roles at work and home even with elevated levels of smartphone use and expectations from supervisors of after-hours availability (Derks et al., 2015). However, Derks et al. recommended supervisors refrain from establishing norms and expectations for being available outside of work hours, while still allowing employees flexibility to perform work during the hours they prefer. As employees are empowered to make decisions such as which hours they work, they can experience increased engagement (Jose & Mampilly, 2014).

Empowered employees can increase engagement at work. After surveying employee engagement literature, Valentin et al. (2015) proposed engagement as a state employees moved in and out of to varying degrees. The authors suggested that empowerment is an antecedent or stimulus for employee engagement (Valentin et al., 2015). Self-determination theory could explain this relationship as empowerment can meet employee psychological needs of competence, autonomy, and relatedness (Valentin et al., 2015). However, as described under the following headings, researchers have demonstrated relationships between other job resources and engagement.

Supervisor relationship. Another job resource linked to employee engagement is the relationship between a supervisor and employee. Highly engaged employees can develop positive relationships with supervisors (Jin & McDonald, 2016). Furthermore, in an environment in which trust and mutual respect are high, employee engagement can increase even when employees experience increasing job demands (Garrick et al., 2014). When the interaction between employees and their supervisors is high, employees can experience greater engagement when they share common goals with their supervisor (De Clercq, Bouckenooghe, Raja, & Matsyborska, 2014). Of course, managers can improve how employees perceive them through demonstrating characteristics of engagement (Bakker & Xanthopoulou, 2013). Supervisors can use additional strategies to improve relationships with employees.

One strategy supervisors can use to increase engagement through improved relationships is internal communication (Kang & Sung, 2017; Karanges, Johnston, Beatson, & Lings, 2015). Employees experience frustration when there is a conflict between communication expectations and communication practices in the workplace (Breiner & Minei, 2017). In the service industry, Menguc et al. (2013) noted a positive relationship between communicated supervisory support and employee engagement. However, the relationship was negative between high levels of supervisory feedback when autonomy was also elevated (Menguc et al., 2013). Additionally, managers can improve relationships and demonstrate engagement using team meetings with employee participation to increase employee engagement (Allen & Rogelberg, 2013; Kang & Sung, 2017). Specifically, managers can engage employees during team meetings through the inclusion of employee voice, ensuring relevance of meeting content, and implementing effective time management techniques such as starting and ending on time (Allen & Rogelberg, 2013). Managers can also use humor and fun to increase employee engagement (Sharma & Bhatnagar, 2017). These practices can contribute to engagement through improved psychological safety, meaningfulness, and availability (Allen & Rogelberg, 2013). Managers can use this information to adjust their management style, including levels of feedback, based on employee needs (Allen & Rogelberg, 2013; Menguc et al., 2013).

Supervisors can assume a variety of roles conducive to increased employee engagement. Sparrow (2013) described five potential roles as prophet, storyteller, strategist, coach, and pilot. The prophet and storyteller role are complimentary as prophet supervisors establish a vision while storyteller supervisors describe how to achieve the vision (Sparrow, 2013). Supervisors acting as strategists reframe conversation using specific actionable details for plan execution while supervisors in the coaching role encourage individual engagement by matching different employee aspirations with components of the organizational strategy (Sparrow, 2013). Additionally, supervisors can perform the role of pilot, steering the group and keeping them on track, with an authoritative, inclusive, or enabling style depending on their personality and needs of the team (Sparrow, 2013). While some supervisors could fit more naturally in one role or another, it is important they recognize when a different role is needed to improve employee engagement and keep the team moving forward (Sparrow, 2013).

Although researchers have not yet extensively examined connections between employee engagement and a variety of leadership styles (Carasco-Saul, Kim, & Kim, 2015), some researchers have identified relationships between engagement and leadership styles. De Clercq et al. (2014) discovered a positive correlation between work engagement and supervisory servant leadership behaviors, particularly when the employee and supervisor shared common goals and a positive relationship. Employees can also increase engagement as a result of a transformational leadership style (Besieux, Baillien, Verbeke, & Euwema, 2015; Breevaart et al., 2015). For instance, Freeborough (2015) analyzed data from 389 nonprofit organizations to compare the components of engagement (absorption, dedication, and vigor) with the five transformational leadership subscales (idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration). Freeborough demonstrated statistically significant relationships between absorption, dedication, and vigor and the five transformational leadership subscales. However, servant leaders and transformational leaders are not the only leaders who can positively influence employee engagement as described in the following paragraph.

Other leadership styles can enhance employee engagement. Through an analysis of Chinese and English speaking employees within two companies, researchers discovered a positive correlation between ethical leadership and both intrinsic motivation and innovation (Yidong & Xinxin, 2013). Although the researchers recommended ethical leadership as a strategy to encourage intrinsic motivation and innovation, they suggested additional research in other countries as Chinese culture could have influenced the study results (Yidong & Xinxin, 2013). Contrastingly, employees implementing self-leadership strategies also report higher levels of engagement (Breevaart et al., 2015). Employees with a low need for leadership are more likely to apply and benefit from self-leadership strategies to direct and encourage their work accomplishments (Breevaart et al., 2015). However, the relationship between leadership styles and engagement can be moderated by other factors including demographic characteristics of the participants or characteristics of the work environment (Carasco-Saul et al., 2015; Popli & Rizvi, 2016). In addition to their leadership styles, as described in the next heading, supervisors must consider the work environment in relation to employee engagement.

Environmental supports. The topic of environmental supports encompasses a variety of job resources including a safe and supportive climate, engaged coworkers, training, and career development (Rana et al., 2014). Anitha (2014) identified all of the following factors as predictive of employee engagement: (a) work environment, (b) leadership, (c) team and coworker relationships, (d) training and career development, (e) compensation, (f) organizational policies, and (g) workplace well-being. Furthermore, among the 385 middle and lower management level employees who responded to the survey, work environment (53% determinant) and team relationship (36% determinant) were found to be the highest predictors of employee engagement (Anitha, 2014). Similarly, Karanges et al. (2015) noted that internal communications increased employee engagement through improved workplace relationships. Observing these research results, managers can increase employee development by improving the workplace environment and fostering team relationships.

An employee's environmental supports can include the group(s) of which the employee is a member. Costa et al. (2014) proposed a model describing the work engagement of a team as a construct identifiable as team vigor, team dedication, and team absorption. In their proposed model, the inputs of team work engagement include characteristics of the individuals, team, task, and work structure (Costa et al., 2014). Therefore, Costa et al. argued that researchers must measure the work engagement of a team as a whole rather than by the engagement level of individual members. Costa et al. proposed the states that emerge as a result of the work engagement of a team (collective efficacy, cohesion, and group affect) directly relate to team effectiveness. Based on this proposed theory, managers could find that engaged employees may or may not be part of engaged teams.

Employees may experience decreased engagement due to the nature of work assigned to their team. When working under high-pressure time constraints, employees may decrease engagement as a result of job demands (Sharma & Bhatnagar, 2017). To avoid decreased engagement of team members, Sharma and Bhatnagar (2017) recommended managers lead the team with a component of humor, clear delegation of responsibilities, and openly communicate feedback. To effectively increase team engagement, managers must communicate realistically yet positively regarding time constraints faced by the team (Sharma & Bhatnagar, 2017). When working with teams facing job demands, managers can take action to improve team engagement.

However, employees can be more likely to be engaged when working with other engaged employees. After analyzing group norms and individual engagement levels across 140 organizations, Griffin (2015) discovered a relationship between the individual levels of employee engagement and the collective norm of employee engagement with the group. Furthermore, Griffin explained that these results are consistent with additional research results relating an individual's organizational citizenship behavior with collective group behavior. In accordance with self-categorization theory, employees can change their behavior to match that of their peers (Griffin, 2015). Bakker, Rodriguez-Munoz, and Sanz Vergel (2016) verified that employees working collaboratively influenced how their peers performed their work as well as their level of engagement. For this reason, managers can increase individual employee engagement through individual participation on engaged teams.

Employees can experience increased engagement through corporate social responsibility (CSR) initiatives in the workplace. Besieux et al. (2015) identified CSR as a mediating influence in the relationship between transformational leadership and improved employee engagement. Also, Valentin et al. (2015) designed a theoretical framework in which they proposed that CSR initiatives enhance employee engagement through intrinsic motivation. The authors based this framework on a review of literature related to CSR and self-determination theory (Valentin et al., 2015). However, when researchers presented employees with hypothetical CSR scenarios and measured components of engagement, they noted no statistically significant relationship (Ferreira & de Oliviera, 2014). Ferreira and de Oliviera (2014) admitted the use of hypothetical scenarios was a limitation of their study and employees might provide different responses when presented with authentic CSR initiatives in the workplace. Contrastingly, in a small study of IT professionals, employees demonstrated a statistically significant positive correlation between engagement and a culture of social responsibility (Barbars, 2015).

Another characteristic of the work environment that could contribute to employee engagement through increased intrinsic motivation is trust. In Nigeria, researchers identified organizational trust as a predictor of employee engagement (Ugwu et al., 2014). Furthermore, researchers discovered a relationship between trust and increased levels of absorption (flow) (Peters et al., 2014). Employees who trusted either their supervisors or peers exhibited increased levels of absorption (Peters et al., 2014). Conversely, employees can become disengaged and less productive in workplace environments where trust has eroded (Hollis, 2015; Rao, 2017). However, trust is not the only workplace characteristic with an established connection to engagement.

Employees can also experience changes in engagement based on the mindset encouraged by the organizational culture. For example, how an employee views an activity is related to the positive or negative effect the employee experiences during the activity (Oerlemans, Bakker, & Demerouti, 2014). In fact, employee mindsets can directly affect the outcomes of an experience, as evidenced by researchers who recognized a stress-as-enhancing mindset could diminish the adverse effects of stress (Crum, Salovey, & Achor, 2013). In their study, in which they demonstrated a connection between mindsets and engagement, Keating and Heslin (2015) provided recommendations for changing an organizational culture from a *genius culture* where a fixed mindset is encouraged, such as was the culture that existed at Enron, to one that cultivates a growth mindset, such as the current culture at Southwest Airlines. This cultural change represents a shift from viewing employee capabilities as fixed to viewing them as malleable and supporting improvement (Keating & Heslin, 2015). As these results suggest, some organizational cultures could be more conducive to employee engagement than others.

Organizations characterized as learning organizations can increase employee engagement through a culture focused on improvement. In a learning organization, both individuals and the organizational culture encourage learning through a focus on improvement, innovation, and processes including knowledge management (Aggestam, 2015). In fact, researchers have discovered a statistically significant relationship between a learning organizational culture and employee engagement (Hoon Song et al., 2014). However, if leaders do not align the organizational systems, practices, and routines with the job specifications, criteria, and procedures, individuals might not experience high engagement or performance (Alagaraja & Shuck, 2015). Thus, a learning organization can require a consistent and pervasive culture to ensure employee engagement.

Researchers related various other workplace characteristics to employee engagement. Employees who are encouraged to focus on using strengths in the workplace, as opposed to improving deficits, demonstrate greater engagement, self-efficacy, and proactive behavior (van Woerkom, Oerlemans, & Bakker, 2016). Likewise, some employees perceive permission to bring their personal device to work as a feature of a motivating work environment which increases engagement (Krimpmann, 2015). Researchers identified that opportunities for education and personal growth, recognition and rewards, and a shared sense of purpose could increase employee engagement through dedication (Ibrahim & Falasi, 2014). Additionally, employees who perceive their supervisor and organization as supportive also tend to be engaged (Jin & McDonald, 2016).

Leadership Influences on Personal Resources

While researchers can explain varying levels of engagement to a degree by the demands and resources of specific jobs, some researchers have discovered that personal resources play a significant role in determining individual levels of engagement (Bakker, 2011; Xanthopoulou et al., 2013). Personal resources related to employee engagement are mindsets of an individual employee and can include self-efficacy, optimism, internal locus of control, and organization-based self-esteem (Bakker, 2011; Bakker & Xanthopoulou, 2013). Employees with high self-efficacy have greater work engagement (Consiglio, Borgogni, Di Tecco, & Schaufeli, 2016). Managers can attempt to screen job applicants for these qualities during the hiring process, but the effectiveness of this practice varies (Lanyon & Goodstein, 2016). Fortunately, managers can increase both engagement and performance by helping employees increase personal resources and implement job crafting strategies (Van Wingerden et al., 2017). By encouraging employees to engage in activities outside of work that increase personal resources, managers can also increase employee engagement in the workplace (Gorgievski et al., 2014). In the following components, I described how job crafting and personal resources are related to employee engagement.

Job crafting. Employees implement job crafting when they seek resources and challenges while reducing demands to improve the fit of their job (Demerouti et al., 2015). Employees engage in job crafting across three boundaries known as tasks, relations, and cognition (Wrzesniewski, LoBuglio, Dutton, & Berg, 2013). For example, employees craft the boundaries of tasks when they modify the priority, nature, or scope of tasks (Tims, Derks, & Bakker, 2016). Also, employees who decide to work more with some individuals or avoid others craft their jobs within relational boundaries by strengthening social supports within the work environment (Wrzesniewski et al., 2013). Finally, employees craft the cognitive boundaries of their work when they alter their perspective to view tasks or their role in the organization as meaningful (Wrzesniewski et al., 2013). Engaged employees are more likely to engage in job crafting (Lu et al., 2014; Tims et al., 2014). In summary, employees take an active role in crafting the nature of their job by modifying task, relational and cognitive boundaries.

Researchers have studied how job crafting relates to performance and employee engagement. When employees can design their work to be meaningful and intrinsically motivating, they improve the performance of their organization through increased engagement (Barrick, Thurgood, Smith, & Courtright, 2015). Both individual employees, as well as teams, have demonstrated improved performance and engagement through job crafting (Tims, Bakker, Derks et al., 2013). Additionally, employees can collaboratively engage in job crafting, which can result in improved satisfaction and commitment to the organization (Wrzesniewski et al., 2013). Through job crafting, employees can experience increased engagement and the specific job performance components of task performance and altruism (Demerouti et al., 2015). Furthermore, as employees craft their jobs, they can also experience decreased burnout (Tims, Bakker, & Derks, 2013). Employees can also increase opportunities to use individual strengths through job crafting, which can improve engagement, self-efficacy, and proactive behavior (van Woerkom et al., 2016).

However, researchers have discovered some unexpected results related to job crafting. In a daily diary study of employee engagement, performance, and job crafting, Demerouti et al. (2015) were surprised to discover that on days where employees sought challenges, both work engagement and counterproductive work behavior increased. Demerouti et al. suggested that the cause could be a need to reach a moral balance of good versus bad deeds during the day, but they admitted additional research is needed. Also, study results were limited because rather than using an external observer, employees were self-reporting counterproductive work behavior (Demerouti et al., 2015). Contrastingly, in two longitudinal studies, researchers concluded that employees who crafted jobs to increase challenging job demands also increased engagement (Tims et al., 2014; Tims, Bakker, & Derks, 2013). However, researchers have discovered conflicting results when employees craft jobs to decrease hindering job demands (Tims et al., 2014; Tims, Bakker, & Derks, 2013). In a qualitative study based in the service industry, researchers ascertained that while high levels of autonomy were positively related to employee engagement, high levels of both autonomy and supervisor feedback were negatively related to engagement (Menguc et al., 2013).

Managers can use this research in the workplace. For example, managers could improve employee performance, well-being, and engagement through job crafting by providing training and opportunities for employees to craft their jobs (Demerouti et al., 2015; Tims, Bakker, & Derks, 2013). By designing organizational practices to increase resources such as relationships, feedback, and training, managers could increase engagement (Albrecht, Bakker, Gruman, Macey, & Saks, 2015). Managers can also motivate employees through transformational leadership practices that align work with an aspirational shared vision (Popli & Rizvi, 2017). As a result, employees experience greater well-being as they craft their jobs to become more personally meaningful (Wrzesniewski et al., 2013).

Wrzesniewski et al. (2013) defined meaningful work as the perspectives that enable employees to view work as constructive and worthwhile. The authors identified three types of job crafting: (a) alignment, (b) aspirational, and (c) accidental. Employees could be alignment job crafters if they have an idea of their work as meaningful, and so strive to alter their tasks and relationships to align their job with this perspective.

Contrastingly, the authors' posited that aspirational job crafters modify their jobs to find more meaning and purpose in their role. Finally, employees could also accidentally craft their jobs to enhance meaning as they happen to develop responsibilities or relationships that improve their work identity in a positive manner (Wrzesniewski et al., 2013). By understanding these three types of job crafting, managers can improve engagement through the support of meaningful job crafting.

Personal Resources. Employees use personal resources such as self-efficacy, optimism, an internal locus of control, and organization-based self-esteem successfully to fulfill their roles (Bakker, 2011; Bakker & Xanthopoulou, 2013). Furthermore, an employee's personal resources can affect whether that employee experiences a job characteristic as a resource, challenging demand, or hindering demand. For example, employees with high emotional intelligence can experience more absorption, dedication, and vigor in the workplace through mood repair (Sarangi & Vats, 2015). Additionally, when studying the engagement of students in their assigned work tasks, researchers discovered a reciprocal relationship between personal resources and engagement (Siu, Bakker, & Jiang, 2014). Employees with high levels of personal resources can also experience greater job satisfaction (Pineau Stam, Spence Laschinger, Regan, & Wong, 2015). Self-efficacy, optimism, and emotional intelligence are personal resources that can affect employee engagement as described in the following headings.

Self-efficacy. Self-efficacy is an employee's belief in their ability to complete tasks (Dagher, Chapa, & Junaid, 2015). An employee's level of self-efficacy can change depending on the nature of the task (Dagher et al., 2015). Additionally, employees with a high level of self-efficacy could demonstrate greater engagement than employees who have lower self-efficacy (Dagher et al., 2015). In a study of service industry employees, researchers discovered a positive relationship between self-efficacy and each of three components of employee engagement (absorption, dedication, and vigor) as measured by the Utrecht work engagement scale (Dagher et al., 2015). When presented with emotional work demands, employees with high self-efficacy can maintain high levels of engagement better than their peers with lower levels of self-efficacy (Xanthopoulou et al., 2013). Furthermore, employees with high self-efficacy perceive fewer job demands and more job resources, while also being less susceptible to burnout (Consiglio et al., 2013; Ventura, Salanova, & Llorens, 2014). Employees with higher self-efficacy have fewer perceived hindrance demands because they view themselves as capable of meeting challenging demands in the workplace (Ventura et al., 2014).

The effects of self-efficacy are not limited to engagement and the perception of job resources and demands. For example, engaged and optimistic employees are more likely to demonstrate increased performance when self-efficacy is also high (Alessandri, Borgogni, Schaufeli, Caprara, & Consiglio, 2015). Additionally, researchers discovered the benefits of self-efficacy related to both individuals as well as teams, and that employees had better attendance records on teams where self-efficacy was high (Consiglio et al., 2013).

The related construct of organization-based self-esteem is similar to the idea of self-efficacy but is peculiar to the context of work. Employees with high levels of organization-based self-esteem view themselves as valued, effective, and capable in the context of their job role (Pierce, Gardner, & Crowley, 2015). Managers can affect employee organization-based self-esteem by the leadership behaviors they implement (Norman, Gardner, & Pierce, 2015). Pierce et al. (2015) noted that in addition to affecting well-being and engagement in the workplace, organization-based self-esteem might improve an employee's life outside of work through improved overall well-being. Managers who implement strategies for improving organization-based self-esteem could improve employee experiences at work as well as at home (Pierce et al., 2015).

Optimism. The construct of optimism indicates an individual's hope for the future and is similar to a positive view of reality (Alessandri et al., 2015). Employees who perceive activities as positive derive happiness and recover from stress through participation in those activities (Oerlemans et al., 2014). Additionally, during episodes of organizational change, managers can help employees apply personal resources and perceive the change as positive through information sharing before and during the transition episode (Van den Heuvel, Demerouti, Bakker, & Schaufeli, 2013). Therefore, managers can take action to improve optimism in the workplace.

Employees can demonstrate either a fixed or a growth mindset related to personal resources and capabilities. Employees demonstrate a fixed mindset regarding ability as they avoid tasks or situations that can expose them as not demonstrating sufficient capability (Keating & Heslin, 2015). Contrastingly, employees demonstrate a growth mindset through risk taking and seeking professional learning opportunities (Keating & Heslin, 2015). Employees with a growth mindset regard ability as improving with effort and view failure as a chance for learning (Keating & Heslin, 2015). Furthermore, Keating and Heslin (2015) proposed that employees with a growth mindset demonstrate increased employee engagement through (a) enthusiasm for professional development, (b) positive beliefs about effort, (c) increased attentiveness, (d) receptivity to feedback, and (e) positive interpersonal relations.

Emotional intelligence. Researchers measured emotional intelligence, as defined by attention, clarity and mood repair, and identified a statistically significant positive relationship with employee engagement (Sarangi & Vats, 2015). Although managers can improve engagement by finding and hiring employees with high emotional intelligence, managers can also increase engagement among current employees through mood repair strategies (Sarangi & Vats, 2015). However, when employees have poor sleep quality they can be less successful when required to exhibit emotional states different from those they are experiencing (Diestel, Rivkin, & Schmidt, 2015). Consequently, factors beyond the workplace environment can affect employee engagement.

Employee Engagement in the Public Sector

Managers in the public sector face different challenges related to employee engagement than managers in the private sector. Employees in the public sector can be less engaged and less committed to their specific organization than employees in the private sector (Agyemang & Ofei, 2013). However, public sector employees can benefit from a shared mission to persevere through difficult challenges in service to the public (Yanchus et al., 2013). Managers who develop positive relationships with employees and are perceived as trustworthy can enhance employee motivation to serve the public (Ugaddan & Park, 2017). After noting a lack of research regarding employee engagement in the public sector, Jin and McDonald (2016) chose to study public sector employee engagement because of the unique challenges public sector employees face. These unique factors include resource shortages, political influence, and less management discretion for financial incentives (Jin & McDonald, 2016) and researchers should consider them when endeavoring to study the public sector.

The resources available to public sector employees are subject to funding changes related to government actions (Jin & McDonald, 2016). Employees who experience organizational changes resulting in fewer job resources available to meet unchanged expectations experience decreased commitment to their organization (van der Voet & Vermeeren, 2017). Although organizational commitment is a component of dedication, researchers noted that decreased resources might not decrease public sector employee engagement, possibly because employees view their work as meaningful (van der Voet & Vermeeren, 2017). Another possibility could be the relationship between perceived support from supervisors and the organization with employee engagement in the public sector (Jin & McDonald, 2016). This relationship can be explained by social exchange theory wherein an individual strives to reciprocate when provided with support and learning opportunities (Jin & McDonald, 2016). In summary, when resources are scarce, employees can still experience engagement if they perceive their supervisor and organization are supportive.

Strategies for enhancing productivity through employee engagement among public sector employees can vary between states. When researchers compared results regarding intrinsic motivation, social communications, mentorship, job involvement, and perceived organizational effectiveness, they discovered differences among public employees in Georgia and Illinois (Park & Rainey, 2012). In fact, employees in different states are subject to various policies and regulations that can directly affect their job demands and resources (Park & Rainey, 2012). Researchers recommended avoiding generalization to all public sector employees without additional studies (Park & Rainey, 2012). Public sector managers in Arizona could benefit from additional research within their state.

Within the public sector, employees have also demonstrated connections between engagement, job demands, and job resources. In addition to discovering data supporting the mediating role of personal resources in work engagement, researchers determined teachers view engaged principals as more creative and charismatic (Bakker & Xanthopoulou, 2013). In a mixed-methods study of Veteran's Health Administration (VHA) employees, Yanchus et al. (2013) identified results consistent with other research in which the effect of job demands on engagement was dependent on employee perception. When provided the opportunity for empowerment as a job resource, public sector employees demonstrated increased organizational dedication and decreased turnover intentions (Kim & Fernandez, 2017). Similarly, public sector employees with management responsibilities demonstrate higher engagement than those with no management responsibility (Vigoda-Gadot, Eldor, & Schohat, 2013). Additional research within the public sector can provide further support for the applicability of the job demands-resources framework.

When studying employee engagement specifically within the IT field, researchers have demonstrated results similar to those in other professions. Employees who have positive relationships with supervisors, opportunities for learning, and recognition within the workplace also reported high levels of engagement (Alias, Noor, & Hassan, 2014). Barbars (2015) studied the relationship between organizational culture and engagement for IT employees in the finance industry and identified a positive correlation with respect for individual rights and positive relationships in the workplace. The previous research cited suggests the possibility that strategies to improve employee engagement can also be advantageous with IT professionals.

However, IT professionals have unique roles as compared with other professions and similar needs for successful outcomes. IT professionals are experiencing a change in their role in response to the increased use of technology in the workplace, outsourcing, and cloud computing (Gallagher et al., 2013). Based on their qualitative research, Gallagher et al. (2013) developed a theoretical model of the relationship between individual differences, fit, and outcomes for IT professionals. Gallagher et al. described five needs as drivers for the fit component of their theoretical model: (a) affiliation, (b) achievement, (c) dominance, (d) autonomy, and (e) cognition. Success factors identified include (a) lower turnover, (b) job satisfaction, (c) performance, and (d) organizational citizenship (Gallagher et al., 2013). IT professionals could view the demands related to changing roles as hindrances or challenges depending on their level of self-efficacy (Ventura et al., 2014).

The role of organizational IT, and therefore IT professionals, is changing. Through a qualitative content analysis using grounded theory research design, Krimpmann (2015) analyzed existing literature according to five categories: (a) strategy, (b) structure, (c) processes, (d) rewards, and (e) people. The strategy for IT organizational design is changing as software as a service (SaaS) and cloud computing change the nature of business unit access to IT resources (Krimpmann, 2015). IT professionals need less expertise in hardware and software maintenance and greater expertise in the management of vendors, resources, data, and particularly problem solving (Krimpmann, 2015). Managers could require new strategies for employee engagement to support the changing role.

Managers of IT professionals encounter additional benefits when enhancing employee engagement in the workplace. Researchers noted a relationship between job satisfaction and autonomy, particularly in the dimensions of task method and scheduling autonomy (Madanagopal & Thenmozhi, 2015). Furthermore, researchers identified a relationship between work engagement and extra-role customer service, which can be essential for the success of IT employees who interact directly with customers (Karatepe, 2013). Engaged IT employees in Malaysia also reported higher retention rates than their nonengaged peers (Alias et al., 2014). Researchers recognize a need for additional nonempirical research, including case studies, in the field of IT to explore the application of theory in this context (Keutel, Michalik, & Richter, 2014; Walsham, 2014). A qualitative case study of strategies for employee engagement among IT professionals could contribute to existing literature.

Additionally, research regarding how gender relates to employee engagement could inform IT managers. After reviewing employee engagement literature, researchers identified conflicting results regarding the relationship between engagement and gender (Banihani et al., 2013). Banihani et al. (2013) suggested additional research explore how the engagement components of psychological meaningfulness, psychological safety, and psychological availability differ for men and women and how this affects engagement in the workplace. Because IT professionals are predominantly male (Banihani et al., 2013), additional research on this topic could yield insightful information for IT managers.

Summary of the Literature Findings

Researchers have defined the construct of employee engagement differently over time, which could negatively affect research in this domain. The definition selected for this research study is a combination of absorption, dedication, and vigor. When examining employee engagement through these dimensions, researchers have identified benefits including increased productivity, performance, and employee well-being. However, previous studies of employee engagement are predominantly of quantitative design. Researchers performing qualitative studies within specific contexts can contribute to the employee engagement literature.

The job demands-resources model was expected to be an appropriate conceptual framework for this study. Using this framework, researchers can view results through the lens of the workplace and job characteristics that contribute to or detract from employee engagement. Understanding the potential effects of job resources and demands can help managers design, deploy, and improve strategies for increasing employee engagement. Job resources such as autonomy, a positive supervisor relationship, and supports in the workplace environment increase employee engagement (Bakker, 2011). However, an employee’s personal resources also affect how work environment characteristics, such as supervisor support, can affect the level of employees’ engagement. For example, employees perceiving a job demand as either challenging or hindering changes the effect of the job demand on engagement (Crawford et al., 2010). Managers can help employees in their effort to develop personal resources such as self-efficacy, optimism, and emotional intelligence. Managers can also provide opportunities for employees to construct their jobs and take advantage of resources while managing challenging demands and decrease hindering demands.

Managers in the public sector face different challenges related to employee engagement than in the private sector, yet there is a lack of research regarding employee engagement in the public sector (Jin & McDonald, 2016). Although researchers studying employee engagement among IT professionals have identified similar results to those in other professions (De Clercq et al., 2014; Diedericks & Rothmann, 2013; Madanagopal & Thenmozhi, 2015), the role of IT within organizations, and of individual IT employees, is changing (Krimpmann, 2015). Conducting a qualitative research study among IT professionals in the public sector was expected to identify management strategies to improve employee engagement, which can benefit employees, their agencies, and communities.

Transition

Researchers have demonstrated connections between employee engagement and a variety of positive organizational outcomes including productivity. Business leaders can increase employee engagement through the implementation of successful strategies related to the demands and resources of their employees. IT managers in the public sector could implement similar strategies, though they face challenges unique to their context.

In Section 2, I describe the details of the research design for this descriptive single case study. I also indicate how these design characteristics mirror established practice for qualitative researchers and how they align with my research question. By detailing decisions within the research design process, I illustrate steps taken to enhance the dependability, credibility, transferability, and confirmability of this exploration into successful strategies for employee engagement. In Section 3, I discuss the themes and data regarding how IT leaders in the public sector have successfully engaged employees. In addition to identifying the implications of these themes for social change, I make recommendations for public sector IT managers, for further research regarding employee engagement, and present my overall conclusions.

Section 2: The Project

In this section, I describe the research design I used to explore strategies that public sector business leaders use to engage IT employees. In this section, I present the role of the researcher, how I selected participants who can discuss successful engagement strategies, and how to ensure ethical research practices. To support the reliability and validity of this study, I provide detailed descriptions regarding the collection, analysis, organization, protection, and retention of data.

Purpose Statement

The purpose of this qualitative single case study was to explore the strategies that public sector business leaders use to increase productivity through engaging IT employees. The targeted population consisted of approximately seven public sector IT managers and their employees within a single public sector organization in Arizona who have successfully increased productivity through engaging employees. As engaged employees experienced less exhaustion and improved physical and mental health, managers who improve employee engagement could contribute to effecting beneficial social change by improving the interpersonal relationships of employees and facilitating employees’ ability to support their communities.

Role of the Researcher

In a qualitative methodology, the researcher interacts directly with the natural world and interprets observations from a variety of sources (Denzin & Lincoln, 2005). Because researchers act as data collection instruments, they must disclose how their personal backgrounds and experiences can affect their interpretations to avoid bias (da

Costa, Hall, & Spear, 2016; Marshall & Rossman, 2016). Researchers reduce bias by acknowledging and examining preferences for certain theories (Roulston & Shelton, 2015). As an educator and manager, I have experience applying strategies to improve engagement with both students and professionals. My personal preference regarding employee engagement is intrinsically motivating strategies over strategies that rely on extrinsic motivation. By recognizing my bias regarding engagement strategies and implementing appropriate reflective procedures, I mitigated personal bias and achieved clear and credible research results.

During the data collection and analysis process, I implemented safeguards and procedures to illuminate my personal lens of employee engagement and to mitigate bias. Personal experience with a topic can improve a researcher's understanding of collected data (Berger, 2015). To mitigate potential bias from previous personal experience, researchers can use standard interview protocols and data collection procedures such as member checking (Chan, Fung, & Chien, 2013; Roulston & Shelton, 2015; Taylor & Thomas-Gregory, 2015). Researchers can also use bracketing strategies, such as journaling, to identify and mitigate bias (Marshall & Rossman, 2016). Before conducting each interview, I provided an interview protocol (Appendix A) to each participant. During the data collection process, I used the same interview protocol to conduct semistructured interviews followed by member checking to validate my interpretations of participants' comments. By using a journal throughout the data collection process to record my thoughts and observations, I mitigated bias through the identification of personal reactions to data collection and analysis experiences.

In accordance with the Belmont Report, researchers should practice respect for persons, beneficence, and justice (National Commission for the Protection of Human Subjects in Biomedical and Behavioral Research [NCPHSBBR], 1979). The application of these practices includes obtaining informed consent, an assessment of risks and benefits, and procedures for the selection of subjects (NCPHSBBR, 1979). I participated in training created by the National Institutes of Health (NIH) and achieved a certification regarding the protection of human research participants.

Participants

Researchers must explain their rationale for selecting a setting for the study (Marshall & Rossman, 2016). For example, researchers can choose an instrumental case as a setting representative of the phenomena under investigation (Marshall & Rossman, 2016). Compared with the private sector, employees in the public sector can be less engaged in the workplace (Agyemang & Ofei, 2013). However, public sector employees can perceive their service to the public as a shared mission driving them to persevere in their work when they encounter challenges (Yanchus et al., 2013). I studied the employee engagement strategies managers use in the IT department of a large public school district located in the metropolitan Phoenix area, which I will refer to as Organization X. For this single case study, participants shared the common goals of a single organization. Unlike small school districts, this setting provided the opportunity to gather data from multiple IT supervisors within the same organization. Before engaging in data collection, I obtained a letter of cooperation from the organization (Appendix C).

When conducting case studies exploring a specific topic, researchers include participants with specialized knowledge of that topic (Stake, 2010; Yin, 2014). In addition to specialized technical expertise, IT managers must have strategies for managing the employees and vendors they supervise (Krimpmann, 2015). Participants who were eligible to participate in my study supervised IT staff within the selected organization and had implemented successful strategies for increasing employee engagement as demonstrated by departmental performance. After identifying potential participants, researchers make contact and request study participation (Boblin, Ireland, Kirkpatrick, & Robertson, 2013). Although some researchers mail letters to initiate communication with participants (Drabble, Trocki, Salcedo, Walker, & Korcha, 2015; Kataria, Rastogi, et al., 2013), researchers also use e-mail communications and receive instant notification of defunct accounts (Galloway, Kapasi, & Whittam, 2015). After reviewing organizational data regarding supervisors within the IT department, I e-mailed eligible participants the informed consent form and an invitation to participate.

Researchers can use interviews to both collect data and establish a working relationship with participants (Doody & Noonan, 2013). By conducting interviews in a semistructured format, researchers can engage in a topic-focused discussion with the participant (Goldberg & Allen, 2015). Skilled researchers must demonstrate attentive listening and adapt to participant communication during the interview process (Drabble et al., 2015; Yin, 2014). To improve their expertise in conducting qualitative studies, researchers can review the methods and techniques used by others, participate in research methods courses or workshops, join professional organizations, and learn from mentors

(Goldberg & Allen, 2015). I participated in training for conducting interviews in the context of the research process. By using a semistructured interview format to gather data related to the research question, I established a relationship with each participant by listening attentively and requesting clarification or additional details. When following up with the participant for member checking, I had an additional opportunity to further our rapport.

Research Method and Design

Researchers use the research question to determine the appropriate research method and design (Fetters et al., 2013; Taylor & Thomas-Gregory, 2015). The nature of a research question is influenced by a researcher's worldview (da Costa et al., 2016). In this section, I explain how my worldview and research question has guided the selection of a qualitative descriptive case study design.

Research Method

Qualitative researchers recognize the socially constructed nature of reality and seek to provide rich descriptions of their research topic (Denzin & Lincoln, 2005). Qualitative research methods are aligned with a constructivist worldview in which researchers generate meaning through observation (Boblin et al., 2013; da Costa et al., 2016). After inductively gathering and analyzing data, qualitative researchers share conclusions in a narrative style (Landrum & Garza, 2015). For this study, I selected a qualitative research method. This methodology choice is appropriate for exploring and constructing narrative descriptions about the strategies that public sector business leaders use to increase productivity through engaging employees.

Quantitative researchers analyze data to create generalizations about relationships and differences among variables (Denzin & Lincoln, 2005). Measuring data from surveys and experiments to create defensible inferences for the purpose of generalization is aligned with a postpositivist world view (da Costa et al., 2016; Walsham, 2014). To meet the requirement for measurement and analysis of data, quantitative researchers can use survey instruments that require participants to select a response from a limited number of possible predetermined responses (Yilmaz, 2013). To identify causal relationships, quantitative researchers design and collect data from experimental or quasiexperimental studies (Venkatesh, Brown, & Bala, 2013). I did not select a quantitative methodology because the nature of the research question necessitated open-ended responses. By using open-ended data collection, I explored the employee engagement strategies used by successful public sector business leaders.

Some researchers combine qualitative and quantitative research methods in a mixed-method study. Researchers using mixed-methods represent a variety of world views (Hussein, 2009; McManamny, Sheen, Boyd, & Jennings, 2014). By using both quantitative and qualitative methods in a single study, mixed-method researchers magnify the strengths and reduce the weaknesses of each method (Fetters et al., 2013). Although researchers do not always state why they select a mixed-method study, the most common rationale is to enable them to employ methodological triangulation (McManamny et al., 2014). Because I did not need to measure predetermined variables for the purpose of generalization to answer the research question, the inclusion of the quantitative method in a mixed-method study is not necessary. However, I did use methodological triangulation to assure the validity of my study’s conclusions.

Research Design

For this study, I selected a single case study design to answer the research question. Researchers select a case study design to explore *what*, *how* and *why* research questions relating to contemporary events within bounded limits defined as a single or multiple cases (Yin, 2014). A descriptive case study is an appropriate research design for exploring and describing the observed nature of phenomena within an organization (Marshall & Rossman, 2016; Taylor & Thomas-Gregory, 2015). If a researcher determines a case to be critical, unusual, common, revelatory, or longitudinal, the single case study design is appropriate (Yin, 2014). I explored how public sector business leaders increased productivity through engaging employees within a single organization. I considered this organization a common case as it shares similar resources and challenges with other public education organizations in the state of Arizona. The job resources and demands for IT employees across these organizations are similar. A case study was an appropriate research design to explore, analyze, and describe the findings from this research question.

Additional qualitative research designs I considered included ethnography, phenomenology, and historical research design. Researchers select an ethnographic design to experience and understand a culture different from their own including rituals, ceremonies, and shared understandings (Marshall & Rossman, 2016; Yin, 2014). Researchers select a phenomenological research design if the goal of their research is to understand and explain the nature and meaning of phenomena to practitioners (Van Manen, 2014). Phenomenological researchers gather data through extensive exposure to research subjects to understand the phenomena as others experienced it (Marshall & Rossman, 2016). In the case of phenomena from the past in which no living participants are accessible, researchers may choose a historical research design to examine artifacts and answer their research question (Yin, 2014). Although the purpose of my research was to share findings with practitioners, in-depth understanding of lived experiences, a unique cultural context, and historical perspective were not required or applicable to answering my research question.

Once researchers have selected a research design, they consider how the design and data collection methods will be executed to ensure data saturation (Fusch & Ness, 2015). Researchers achieve data saturation through the compilation of an appropriate amount of quality data using replicable methods (J. M. Morse, 2015b). When there are no new themes, codes, or information identified in data collection, a researcher has achieved data saturation (Guest, Bunce, & Johnson, 2006). By using a case study design with replicable data collection and analysis methods, I achieved data saturation through member checking the collected data and continuing to gather data until I discovered no new information.

Population and Sampling

Yin (2014) cautioned qualitative researchers regarding usage of the terms *population* and *sampling*. Qualitative researchers do not conduct studies for the purpose of statistical generalization to a population, but rather to develop or explore theories (Yin, 2014). However, researchers must be transparent regarding population and sample selection (Marshall & Rossman, 2016). For this single case study, the population consisted of those individuals within the selected organization who supervise IT employees and who had implemented successful employee engagement strategies as evidenced through organizational documentation of successful team performance. Successful IT managers apply both specialized technical knowledge as well as leadership strategies for achieving goals (Krimpmann, 2015). By including participants from the organization with specialized knowledge, qualitative researchers can develop or support existing theories in response to research questions (Stake, 2010; Yin, 2014)

When making decisions about sampling methods, researchers must consider their research design and data collection methods (Marshall & Rossman, 2016). Qualitative researchers typically choose sampling methods that are not random (Marshall & Rossman, 2016). The most commonly used nonrandom type of sampling is purposeful sampling (Acharya, Prakash, Saxena, & Nigam, 2013) in which researchers identify participants within the research setting who have knowledge related to the research question (Boblin et al., 2013). Previous researchers selected purposeful sampling when studying employee engagement in the public sector (Agyemang & Ofei, 2013). Using purposeful sampling, I identified and recruited participants within the organization who had specialized knowledge in the area of IT leadership, which directly related to my research question.

A frequent weakness of existing qualitative research studies in the field of IT is the lack of justification for the sample size (Marshall, Cardon, Poddar, & Fontenot, 2013). When determining sample size, qualitative researchers must consider the limitations of their data collection methods while ensuring that their results accurately portray a response to the research question representative of the setting (Oppong, 2013). Guest et al. (2006) interviewed 60 participants and concluded that after conducting only six interviews, they identified 94% of the total codes. To achieve data saturation, researchers must reach a point where additional data collection does not result in the creation of new themes (Marshall & Rossman, 2016). The number of IT managers within the organization was a limitation to the size of my sample. Although three members of the population declined the invitation to participate voluntarily, I was able to interview all the senior members of IT leadership and achieve data saturation.

Researchers must consider not only the quantity of data necessary to reach saturation but also the quality of the data (Fusch & Ness, 2015). Using detailed descriptions of data during the member checking process, researchers can review the quality of data collected from each participant (Cope, 2014). The number of interviews in single case study research related to information systems varies (Marshall et al., 2013). However, variability between studies is appropriate because it is inefficient for researchers to continue conducting interviews once they are no longer finding substantial insights related to the research question (Marshall et al., 2013). Each of the emergent themes and 65% of the total codes were derived from the first interview. I continued interviewing and member checking until I had reached data saturation, and interviewed all senior members of IT leadership. No new themes or codes emerged from the fourth interview and member checking process.

Although conducting interviews over the phone is an acceptable practice for qualitative research (Drabble et al., 2015), researchers using in-person interviews can communicate respect and value through body language (Strengers, 2015). Because the geographical location was not a barrier, I conducted semistructured, face-to-face interviews. Researchers must consider and plan for the duration of the interview as well as identify a private and nonthreatening environment for conversation (Doody, Slevin, & Taggart, 2013). When planning the interview setting, some researchers use participant offices or conference rooms and can even leave the door open during the informal conversations (Boblin et al., 2013). Previous researchers studying employee engagement through semistructured interviews have planned 45 minutes to an hour to conduct initial interviews (Medhurst & Albrecht, 2016). I scheduled interviews with participants at their place of work or at a nearby public location. When meeting in the workplace, we met in private offices without interruptions during the hour scheduled for the interview and were able to close the door to reduce background noise on the audio recording.

Ethical Research

To ensure ethical research practices when using human participants, the NCPHSBBR (1979) established guidelines. To follow these guidelines, researchers must assure the respect of participants, beneficence, and justice in the design and implementation of their research study (NCPHSBBR, 1979). I completed training (certificate number 1722054) from the NIH regarding proper research procedures for the ethical protection of participants (Appendix B). Researchers provide study participants documentation in advance regarding informed consent including voluntary participation and options for withdrawing (Malinowski & Lim, 2015; Sikweyiya & Jewkes, 2013). In compliance with guidelines for respect for persons participating in research studies (NCPHSBBR, 1979), I advised potential participants that study participation was voluntary and participants could withdraw at any time by contacting me and requesting removal. Through the institutional review board (IRB) process, researchers design and perform ethical studies through the practice of ensuring informed consent of participants (Bhattacharya, 2014). Potential participants should understand what will be required of them during the study, the potential risks as well as advantages, and how the researcher will protect the confidentiality of participants (R. J. Morse & Wilson, 2016). Participants in this study received a consent form listing the background information, procedures, voluntary nature of the study, risks and benefits, compensation, and privacy before providing consent. Before contacting participants and collecting data, I obtained approval from the governing board and research department of Organization X (Appendix C) and Walden University IRB approval to proceed with my study (approval number 03-15-17-0536439).

Researchers must detail the benefits and any incentives for participation in the research study (NCPHSBBR, 1979). While participants may be more inclined to participate in a study if the researcher provides a monetary incentive (Klabunde, Willis, & Casalino, 2013), public sector employees in Arizona operate under restrictions regarding the nature of incentives (gifts) they can receive (Arizona State Legislature, 2017). Researchers have noted that some study participants view participation as an altruistic incentive expecting that the academic research will help others (Sikweyiya &

Jewkes, 2013). Study participants could view their contribution to academic research as an incentive, but they did not receive additional monetary incentives for participation.

Researchers must maintain a chain of evidence including storing study data separately from the study report (Yin, 2014). I stored research records including interview recordings, transcriptions, documents, and notes in a secure electronic file separate from the final study. Study participants could perceive a loss of confidentiality to be their greatest risk of participation (Sikweyiya & Jewkes, 2013). Researchers can protect confidentiality by using pseudonyms to refer to participants when analyzing data (Sikweyiya & Jewkes, 2013). Researchers must follow the guidelines of their IRB for protecting the confidentiality of participants and data collected during the research process (Yin, 2014). In the completed study, I identified participants only with a pseudonym and stored the list that links pseudonyms to participant identity in a separate electronic file from the study data. In a study of employee engagement in the workplace, Richards (2013) securely maintained study data for 5 years, after which he physically destroyed the data. After study composition, I stored all study data in a password-secured electronic file with an automatic backup that I will erase 5 years after the study approval.

Data Collection Instruments

Qualitative researchers act as the primary instrument of data collection while interacting with their subjects and the context of their research to observe and document information (Denzin & Lincoln, 2005). Researchers also use interviews and organizational documents related to their research questions to gather information for analysis (Marshall & Rossman, 2016; Yin, 2014). Previous researchers studying employee engagement in the workplace have used semistructured interviews and organizational documents as data collection instruments (Medhurst & Albrecht, 2016). While acting as the primary data collection instrument, I collected data through semistructured interviews and organizational documentation.

Qualitative researchers use a variety of in-depth interview formats depending upon the research design and alignment with their research question (Yin, 2014). Qualitative researchers select a semistructured interview format to increase flexibility while maintaining a standard protocol (Boblin et al., 2013; Goldberg & Allen, 2015; Marshall & Rossman, 2016). Using a semistructured format, researchers can then probe more deeply into participant responses to standard protocol questions and elicit richer data from participants (J. M. Morse, 2015a). To allow for flexibility within a standard protocol, I used the interview protocol listed as Appendix A to conduct semistructured interviews with study participants. I asked participants to expand on or explain some responses during the interview process to identify and collect additional details.

After collecting and interpreting data, researchers can return to participants requesting feedback on the interpretations in a process known as member checking (Marshall & Rossman, 2016). Researchers use member checking to verify the accurate collection and interpretation of data and increase the reliability and validity of study findings (Cope, 2014; A. L. Morse & Mcevoy, 2014; J. M. Morse, 2015a). After completing and analyzing data from each semistructured interview, I returned to participants for the process of member checking and obtained verification and clarification regarding the data collected and interpretation.

Qualitative researchers can include documentation as a data source for the purpose of confirming or contradicting information through methodological triangulation (J. M. Morse, 2015a; Yin, 2014). Researchers can collect data from relevant documentation in the form of organizational policies, announcements, meeting minutes, websites, and e-mail communication (Marshall & Rossman, 2016; Yin, 2014). Because of the nature of public sector organizations, I was able to obtain information regarding policy, operations, processes, announcements, meeting minutes, videos, and other electronic communications from the organization's website.

Data Collection Technique

The purpose of this qualitative single case study was to explore the strategies that public sector business leaders use to increase productivity through engaging IT employees. Qualitative case study researchers explore phenomena by collecting data from a variety of authentic sources which may include interviews, observations, and the review of archival or company documents (Landrum & Garza, 2015; Yin, 2014). Researchers select data collection methods aligned with their research purpose (Keutel et al., 2014; Taylor & Thomas-Gregory, 2015). To collect data related to the research question, I performed semistructured interviews and reviewed organizational documents related to my research question.

Using interview protocols, researchers select a semistructured interview format as a more flexible yet consistent way to collect data from each participant (Boblin et al., 2013; Marshall & Rossman, 2016). While researchers prepare a standard protocol with questions for every participant, the semistructured interview format provides an opportunity to probe for additional details beyond first answers (Yin, 2014). If researchers obtain logical answers from each participant but do not probe deeper for additional information, the semistructured interview format could yield limited information without a significant contribution to research (J. M. Morse, 2015a). To allow for flexible yet consistent interviews, I used a semistructured format as outlined in an interview protocol (Appendix A). While interviewing, I paraphrased for clarification and understanding while also asking probing questions to evoke increased detail or additional information from participants.

Researchers can increase reliability by audio recording interviews for later transcription (Doody & Noonan, 2013; McGonagle, Brown, & Schoeni, 2015; Myers & Lampropoulou, 2015). Some researchers have raised the concern that participants could be less forthcoming when an interviewer is recording their conversation (Hietanen, Sihvonen, Tikkanen, & Mattila, 2014). However, Boblin et al. (2013) recommend recording interviews when there is a single researcher. When audio recording an interview, the researcher can be engaged in the interview process without the fear of data loss (Boblin et al., 2013). As I was the sole researcher, I audio recorded each interview to ensure reliable transcription of all interview content without loss of data.

Researchers implement triangulation through the use of multiple research methods or multiple data sources to improve the trustworthiness of a study (Bulley, Baku, & Allan, 2014; Cope, 2014; Marshall & Rossman, 2016). Within the field of IT research, Keutel et al. (2014) concluded that the most common qualitative research design was single case study using interviews as a primary data collection technique. Keutel et al.

recommended the use of alternate data sources such as organizational documents. Researchers can use documentation such as websites, meeting minutes, announcements, logs, and news reports (Dasgupta, 2015; Marshall & Rossman, 2016). However, researchers must consider that the content of documents cannot always demonstrate the context in which individuals created the artifacts (Boblin et al., 2013) and that individuals could have altered the documents (Yin, 2014). In addition to semistructured interviews, I collected data from the organizational documentation. To obtain this data, I searched publicly accessible information about the organization in news reports and on their website including meeting minutes, announcements, policies and procedures, and electronic communications. In some cases, participants helped direct me to the specific relevant documentation.

After collecting and analyzing data from study participants, researchers validate their interpretation of the data by requesting feedback from participants regarding the summary interpretation (Boblin et al., 2013; Cope, 2014). This process is known as member checking (Marshall & Rossman, 2016). However, J. M. Morse (2015a) cautioned that participants might not recognize their perspective within a summary when combining additional data sources. Researchers can avoid this potential pitfall by member checking each interview individually (Nelson, Onwuegbuzie, Wines, & Frels, 2013). After transcribing and reviewing interviews, I created a summary and returned to participants requesting verification and clarification of my interpretation.

Data Organization Technique

Researchers must organize data for analysis and auditing purposes. Qualitative researchers use reflexive journals to record their initial interpretations during the data collection process (Boblin et al., 2013; Taylor & Thomas-Gregory, 2015). By including data along with reflexive journals, researchers establish an audit trail that enables analysis while also assuring reliability and validity (Houghton, Casey, Shaw, & Murphy, 2013; Taylor & Thomas-Gregory, 2015). When collecting data via semistructured interviews or documentation, I noted the date, time and other relevant contextual information for each piece of data. I stored audio recordings using a naming convention to indicate time and participant pseudonym (Participant 1, Participant 2, Participant 3, etc.) while also including the date and time as part of the audio recording. Qualitative researchers use pseudonyms to protect the privacy of participants while also enriching the information by adding quotes and examples to their study results from a variety of participants (Goldberg & Allen, 2015). I used the TranscribeMe® service to have audio recordings transcribed and then stored them within the NVivo® software suite. To assist with analysis and trustworthiness, I also kept a reflexive journal noting my initial thoughts, developing ideas, and reactions to data during the data collection and analysis process.

Researchers should store all information in a central database that is available for inspection as needed and indicates when and how they collected the data (Cronin, 2014; Marshall & Rossman, 2016; Yin, 2014). Researchers can use software to facilitate the data collection and analysis process (Yin, 2014). As they collect data, researchers could begin developing codes and identifying themes in an iterative research process (Boblin et al., 2013; J. M. Morse, 2015a). Within the software NVivo®, I created a centralized database containing all of my data, codes, and the related themes. I electronically scanned and stored all physical documentation and notes and destroyed the paper copies. I captured electronic documents, such as those accessible on a website, by adding copies of the files or screenshots to my database. For audio recordings, I included the date, time, and participant pseudonym in the electronic file name. I marked information in my reflexive journaling notes including the date, time, and context. While Yin (2014) advocated for easy access to study related data, Richards (2013) explained the need to retain data for a limited amount of time; specifically, 5 years. I have electronically stored all data related to this study in a password-protected file and will destroy the information 5 years after study publication.

Data Analysis

Researchers can use methodological triangulation to determine the completeness of data by verifying results from multiple data sources (Flick, 2017; Heale & Forbes, 2013; C. Marshall & Rossman, 2016). As patterns in data emerge, researchers can identify valid patterns as those that exist in multiple data collection methods (Cronin, 2014). However, data convergence or contradiction could be a result of errors in research design, methods, or interpretation (Heale & Forbes, 2013). Researchers must consider the possibility of alternate or opposing interpretations as they analyze research data (Boblin et al., 2013). During the data analysis process, I used methodological triangulation to analyze data I collected through semistructured interviews and organizational documentation to corroborate or contradict themes.

In alignment with a constructivist worldview, Denzin and Lincoln (2005) suggested that the actual nature of a phenomenon cannot be known. Qualitative researchers use data analysis to discover patterns and improve the representation of the phenomenon under investigation (Denzin & Lincoln, 2005). Qualitative researchers use an iterative data collection process in which the collection, analysis, and interpretation of data are simultaneous (Boblin et al., 2013). Although this process increases flexibility as researchers can capitalize on opportunities and follow new lines of thinking that arise during data collection, researchers must still adhere to a systematic process (Cronin, 2014). My data analysis process was also iterative in that I began analyzing and reflecting as I began gathering data, but the process of analysis was systematic.

A preferred technique qualitative researchers use for data analysis is pattern matching (Yin, 2014). In the pattern-matching method, researchers initially develop codes aligned with existing theories and look for examples and nonexamples within the data using computer software to record and analyze coded data (Marshall & Rossman, 2016; Yin, 2014). While applying codes to data, qualitative researchers explore patterns among codes to identify themes (Rabinovich & Kacen, 2013). During data analysis, researchers reflect on whether interpretations other than those they selected could better explain the data (Boblin et al., 2013; Marshall & Rossman, 2016). As I began collecting data, I made a note of possible codes, connections to existing literature, and developing themes. After transcribing and reviewing interview data and documents, I expanded and applied codes to data and stored this information in the software NVivo®. Within NVivo®, to develop themes, I continued reviewing data and developed codes that were either relevant to my conceptual framework or relevant to other potential conceptual frameworks.

When analyzing results, researchers include information regarding contributions and limitations to relate their study to the larger body of knowledge regarding the research topic (Goldberg & Allen, 2015). Decision makers could lose confidence in study results when coherence between findings and theory are missing (Cronin, 2014; Lewin et al., 2015). Researchers can also identify gaps in existing literature based on the results of case studies (Yin, 2013). Using recent peer-reviewed sources related to my research question and conceptual framework, I connected the themes that emerged from my data with existing literature and noted any differences.

Reliability and Validity

Reliability

Because qualitative researchers are the primary instrument of data collection and interpretation, they must demonstrate reliability by engendering trust in their processes (Marshall & Rossman, 2016). To illustrate dependability and that other researchers would derive the same results using the same data, researchers should explain and justify research processes and decisions (Cope, 2014; Keutel et al., 2014). Researchers should detail how and why they selected the research design, how they verified interpretations, and how they achieved data saturation (Elo et al., 2014). Others could lose confidence in study results when questions arise as to the richness of the data supporting results (Lewin et al., 2015). To increase dependability and engender trust in my role as a researcher, I detailed and supported research design decisions including the use of member checking and both data and methodological triangulation to verify interpretations and findings. To illustrate data saturation, I provided specific examples of the data supporting identified themes.

Validity

Historically, researchers have used the term *validity* to denote a variety of measures of quality regarding how well the research instruments, process, and decisions addressed the research question (Newton & Shaw, 2013). Criteria for the evaluation of validity in qualitative research differ from those of quantitative research and includes credibility, confirmability, and transferability (Cope, 2014; J. M. Morse, 2015a). In designing this research study, I planned for the validity of research results through considerations for credibility, confirmability, and transferability.

Researchers increase credibility, or the assurance of data as a representation of the truth, through detailed descriptions of interactions and observation methods (Cope, 2014). Goldberg and Allen (2015) encouraged researchers to exercise transparency in data collection and analysis and substantiate findings with direct quotes from their research as a practice to increase trust in research results. Researchers can improve credibility and trustworthiness through triangulation of data, building rapport with research participants, avoiding bias through the use of a reflective journal, maintaining an audit trail, member-checking, and providing a rich description of data for developing and supporting findings (Cope, 2014). To strengthen validity, researchers can also examine other plausible explanations for results, use one of four types of triangulation, or present logic models supported by data (Yin, 2013). To increase the credibility of this study, I detailed how I built rapport, mitigated bias, organized and secured data, and verified my interpretations with participants through member checking and methodological triangulation. I included detailed descriptions and examples from data to support my conclusions and study results.

Transferability refers to the extent which researchers can generalize results to a larger population (Marshall & Rossman, 2016). Generalizing results from case studies directly to larger populations is not typically plausible, but researchers can improve generalizability by establishing connections from observations to existing literature (Yin, 2013). Even with small sample sizes, case study researchers can evoke rich data containing a variety of variables to inform practice (Cronin, 2014). For example, researchers within IT identify the limitations of their research while recognizing that the findings from their analysis could inform research beyond the context of their study (Keutel et al., 2014). By describing my research decisions and results in detail, as well as making connections to existing research related to employee engagement and the job demands-resources framework, I provided data to help future readers determine the extent to which results can be transferable within another context.

Through a clearly documented and supported research process, from sampling to data collection and analysis, qualitative researchers can assure validity by establishing procedures that can be replicated and confirmed by others (Marshall & Rossman, 2016; Robinson, 2014; Yin, 2014). To increase confirmability, (Boblin et al., 2013) advocated that participants provide additional details or explanation during semistructured interviews and use member checking to establish validation of interpretations from study participants. Cope (2014) described confirmability as bias-free interpretations and suggested researchers provide quotes to support and explain interpretations. Researchers also accept triangulation as a component of rigorous research (Heale & Forbes, 2013). Researchers can use triangulation to determine the completeness of data as they analyze whether multiple data sources provide results that are convergent, complementary, or contradictory (Boblin et al., 2013; Heale & Forbes, 2013). Because I used semistructured interviews and member checking, I assured the confirmability of my study through clarification and expansion from study participants. I also used methodological triangulation to obtain data from multiple sources for assuring the validity of the findings for answering the research question.

Transition and Summary

In this section, I detailed the research process for this descriptive single case study. I ensured alignment with my research question by describing how I will select participants knowledgeable about strategies for improving employee engagement among public sector IT employees. By collecting data through semistructured interviews and organizational documentation using procedures aligned with established research practices, I had the flexibility to address my research question while increasing confidence in the dependability, credibility, transferability, and confirmability of my study's findings. In Section 3, I present the themes from identifying and exploring the strategies the business leaders use in this single case study to increase employee engagement. Next, I describe how these strategies can potentially apply to the practice of other business leaders in the public sector and how these strategies could create social change. Furthermore, I provide recommendations for further research regarding the engagement of IT employees in the public sector and present my overall conclusions.

Section 3: Application to Professional Practice and Implications for Change

Introduction

I initiated this qualitative single case study to explore the strategies that public sector business leaders use to increase productivity through engaging IT employees. After researching definitions and theories related to employee engagement, I examined the job demands-resources framework as a conceptual theory of employee engagement. I then conducted research within a single public sector organization in the Phoenix, Arizona, metropolitan area. Through data collection and analysis, I identified successful employee engagement strategies the organization's leaders used and triangulated that information with organizational documentation. Through analysis of participant interviews and organizational documentation, I identified three themes encompassing leaders' strategies for fostering employee engagement: developing positive relationships, providing empowerment with support, and connecting work with meaningful purpose. Each theme includes supporting strategies that emerged from studying participant interviews and organizational documentation. The themes I identified align with those of other researchers studying employee engagement (see Bakker, 2014; Saks, 2017). However, my focus on public sector IT employees illuminated an added emphasis on individuality and purpose.

Presentation of the Findings

The central research question for this study was: What strategies do public sector business leaders use to increase productivity through engaging IT employees? While analyzing and coding data, three primary themes emerged with supporting strategies for employee engagement in each. The three themes are (a) developing positive relationships, (b) providing empowerment with support, and (c) connecting work with meaningful purpose. Within each of these themes, leaders must consider the differences among individuals and the different jobs that fall under the classification of IT.

Through the analysis of both semistructured interview responses and the member checking process, each study participant from Organization X provided support and strategies aligned with each theme. I also verified the themes through comparisons with relevant organizational documentation. I derived 65% of the codes used for data analysis from the first interview with Participant 1. In the process of coding data from the other three participants, I uncovered support for each theme that emerged from this initial interview. An additional 17.5% of the total codes emerged from my interviews with Participants 2 and 3. No new codes emerged from additional interviews or the member checking process. In my presentation of key findings, I have omitted information that could lead to the identification of individuals involved in my study.

According to researchers, effective employee engagement strategies are ones that provide support for individual employees and are implemented through a supporting framework of aligned organizational policies and procedures (Albrecht et al., 2015; Saks, 2017). Qualitative researchers review information from multiple sources to support or contradict research findings through methodological triangulation (Flick, 2017). I evaluated the information from study participants within the context of the organization by reviewing a variety of documents including strategic planning documentation, supervisor and employee performance evaluations, newsletters, web pages, videos, the annual organizational review, and governing board policies, reports, and regulations. These documents provided support for the strategies I identified from participant interviews within each of the three theme areas (see Table 1). I did not find information in the documentation suggesting any contradictions to any of the themes.

Table 1

Number of Codes in Organizational Documentation by Theme

Theme	Number of codes in organizational documentation
Develop positive relationships	12
Provide empowerment with support	43
Connect work with meaningful purpose	57

Identifying Engaged Employees

In Organization X, leaders view employee engagement as a central part of the strategic plan, and governing board members consider engagement essential to achieving desired results. Researchers have noted discrepancies in definitions of employee engagement including potential overlap with other similar constructs (see Saks, 2017). Yet researchers typically define engagement as a psychological state that is demonstrated through physical characteristics and behaviors (Saks, 2017; Valentin et al., 2015). Study participants from Organization X use observation of both employees and their work to determine engagement.

Participants who were supervisors in Organization X identified engagement through behavior in both formal and informal conversations. One participant noted that “an employee’s voice, body language, and the nature of their responses exhibit the passion they have towards their work.” The context supervisors used to observe employee engagement behaviors range from staff meetings to informal hallway conversations or interactions with customers. According to study data, engaged employees could bring suggestions and ideas to their supervisor for consideration. However, the behaviors that demonstrated engagement varied by role. Participant 1 explained that while an IT trainer might demonstrate engagement when speaking enthusiastically, a programmer might demonstrate engagement when staring out a window while absorbed in task-related thoughts.

As employees accomplish work tasks, supervisors in Organization X are also able to monitor engagement. Engaged employees invest more of themselves into their work including additional discretionary effort (Saks, 2017). Through conversations, observations, and the tools they use to track employee work, supervisors observe IT employee performance in comparison to department goals. Study participants observed that engaged employees complete work with “efficiency and tenacity.” Sometimes, supervisors find evidence that employees were motivated by their work and thought about specific tasks beyond the work day. As an example, Participant 2 described an employee who shared a book that was purchased at home to support a current project. Leader participants valued these demonstrations of engagement and shared a variety of strategies to increase employee engagement.

Theme 1: Develop Positive Relationships

Study participants provided strategies that are aligned with the theme of developing positive relationships in the workplace. Researchers have identified a correlation over time between positive perceptions of supervisors and peers and increased employee engagement (see Consiglio et al., 2016; Rana et al., 2014). Positive relationships are a job resource related to employee engagement while poor organizational culture or politics are job characteristics related to decreased engagement (Saks, 2017). Strategies within the theme of developing positive relationships include (a) building a positive relationship between the employee and supervisor, (b) building positive relationships among employees, and (c) demonstrating trust through delegation and shared decision making. All participants noted these strategies in their interview responses.

Relationships between IT employees and supervisors. According to Diedericks and Rothmann (2013), IT employees experience increased engagement when they have a positive relationship with their supervisor. Employee engagement is directly correlated with the interpersonal skills of the supervisor (Ugaddan & Park, 2017). Study participants indicated that supervisors must make an effort to develop a positive relationship with each IT employee. Participant 3 shared the strategy of demonstrating an attitude of service towards employees. Participant 3 further explained that an attitude of service towards each employee requires getting to know them as individuals and behaving in such a way that employees believe they are working together with the supervisor towards their mutual success.

Participants 1, 2, and 3 noted that when supervisors develop positive employee relationships, employees are not only more engaged but are also willing to speak up about potential changes that are needed to improve efficiency or productivity. Documentation from its governing board policy supports that employee participation in decisions is a significant value of Organization X. Documented budgets and other recommendations put before the governing board for decisions also provide evidence of employee input. An example provided by Participant 2 illustrated how listening to employee input enabled the team to more efficiently and effectively provide a standardized resource for the entire organization, which facilitated organizational members' ability to use a new productivity resource that had recently been deployed by IT. Participant 4 illustrated how employee input in the division of work tasks increased both engagement and productivity.

Developing relationships with employees in other departments is also an opportunity that leaders in Organization X use to enhance employee engagement. After getting to know an employee in another department, one study participant recommended the employee for a position with greater challenge and responsibility. The employee applied for and secured the position. Organizational practices such as hiring from within improve both organizational commitment and engagement (Boon & Kalshoven, 2014). While all study participants agreed that a positive relationship between the supervisor and employee was a component of employee engagement, Participant 2 emphasized the difficulty in striking the correct balance in the relationship:

> You can't get personal, you can't be friends and go out for dinner, I don't think. I think that's very difficult then to maintain that stance that you-- something isn't working right, and you need to mentor or have improvements. That's hard if there's a friendship underlying it. So you have to be sure that your relationship

> building is really that one of empathy and compassion, and yet work standards and professionalism. So it’s a tough route to walk.

Study participants have also witnessed how negative relationships with supervisors can decrease employee engagement. Participant 2 provided the example of an uncertain relationship between a supervisor and employees in which employees were either treated with friendliness or thoughtlessness. Multiple participants observed that the lack of a consistent and positive relationship decreased employee engagement. Participant 1 described the lack of productivity that accompanies negative relationships with supervisors. Also, employees spent time complaining to each other or another leader about poor relationships with supervisors. Work relationships beyond that with the immediate supervisor, however, can also increase employee engagement.

Relationships among employees. Another strategy noted by study participants for increasing employee engagement was developing relationships among employees. As employees form positive relationships in the workplace through productive interactions, engagement increases (Rao, 2017). One type of organizational documentation that can be used to reinforce employee engagement practices on an individual level is through performance evaluation (Albrecht et al., 2015). In reviewing the forms used within Organization X, I found that performance evaluations for all employees included measurements for individual participation in productive collaboration. Administrative employee performance evaluations also include a measure for how well leaders foster an environment in which employees can “connect…with one another” in a positive collaborative culture. Practices in Organization X, as indicated in my review of organizational documentation, provide public recognition for employees who, as nominated by their peers, serve not only the goals of the organization but also show a "demonstration of genuine concern for the welfare" of others. Study participants also reflected the importance of positive relationships among employees in their interview responses, as described in the following paragraphs.

As a job resource, positive relationships with other employees can increase employee engagement (Bakker, 2014) and team performance (Costa et al., 2014). Participant 3 indicated that when employees have positive relationships in the workplace, employees are "…a cohesive team that is happy with their work product and happy with what they're doing." Participant 3 further explained that supervisors could increase employee engagement by "…keeping them [employees] going in that direction and feeling good about wanting to come to work every day and enjoying what they're doing." A strategy Participant 4 shared for improving employee relationships was to create mentoring relationships between junior and senior employees within specific jobs such as programming. Use of mentors fostered the development of relationships among employees as well as providing the junior employees with an opportunity to access information quickly when they needed it.

Study participants provided some specific examples of IT employees being asked to perform in high-stress environments. Participant 3 pointed out how positive relationships among employees can contribute to engagement even when team members face considerable pressure to meet deadlines or work under stressful conditions to solve problems. With positive relationships, employees reach out to others for help researching or implementing solutions rather than placing blame and delaying resolution. In these challenging situations, Participant 3 described how having a positive relationship with peers increases both engagement and productivity.

Study participants explained how positive relationships with employees outside of their department could also increase engagement. Specifically, study participants described employees working as part of cross-functional teams to build and execute plans collectively. Participant 2 described delegating responsibility to an employee for working directly with an external department on collaborative projects; after doing so the employees had a mutual understanding of the others' goals that resulted in fewer complaints regarding external demands and increased productivity. Participant 1 emphasized the importance of direct communication among employees to build relationships and perform work. Accordingly, multiple study participants identified hierarchical communication as a barrier to building relationships. When employees are required to communicate up to their supervisor(s) to collaborate with others outside of their department, employees can become frustrated and disengaged, according to these participants. Researchers have identified a similar lack of open communication as related to employee disengagement (Breiner & Minei, 2017; Sharma & Bhatnagar, 2017). However, allowing employees to communicate directly is an example of demonstrating trust, which is another strategy for catalyzing employee engagement that emerged from my data analysis.

Demonstration of trust. Employees become disengaged when they do not trust their supervisors and peers (Rao, 2017; Saks, 2017). Employees are more engaged when supervisors listen to their ideas and include them in the decision-making process (Rao, 2017). When reviewing organizational documentation, I noted that the strategic plan of Organization X includes a specific reference to using trust to build relationships and engage stakeholders. Study participants included references to building and maintaining trust as a component of employee engagement.

Each study participant referred to delegation and shared decision making as strategies to build trust and improve relationships. In contrast, study participants noted how a lack of trust could erode relationships and engagement. Participant 1 cautioned that requiring communication through hierarchical channels is an example of how employees could feel a lack of trust. Participant 3 described the potential for micromanaging to send a message that an employee was not trusted to deliver results. Participant 3 further explained that trusting relationships improved both engagement and productivity. Participant 3 postulated that this was because IT employees would request assistance on difficult problems or projects from trusted colleagues. Collaboration on difficult problems was noted as often increasing productivity because collaboration enabled team members to generate more creative solutions. Participant 2 noted how empowering employees and enabling them to make choices about their work environment could engender feelings of trust. Empowerment with enabling support was another theme derived from the data.

These strategies, building positive relationships between IT employees and supervisors, positive relationships among employees, and building trust, support the theme of developing positive relationships to increase employee engagement. When provided the opportunity to develop positive relationships in the workplace, employees increased engagement (Lu et al., 2014). Positive relationships are a job resource, which, according to researchers, can increase employee engagement (Bakker, 2011; Wrzesniewski et al., 2013). Documentation from Organization X and research regarding the job demands-resources framework support the assertions of study participants regarding positive relationships increasing employee engagement.

Theme 2: Provide Empowerment with Support

The next theme, providing empowerment with support, is evident in employee engagement research. Researchers have demonstrated a correlation between psychological empowerment and employee engagement (Valentin et al., 2015; Young & Steelman, 2017), which is more pronounced in the public sector than in the private sector (Eldor & Vigoda-Gadot, 2017). Empowered public sector employees are also less likely to leave their organization (Kim & Fernandez, 2017). A strategy leaders can use to improve employee engagement is to empower employees through specific responsibility and decision-making delegation (Kim & Fernandez, 2017). However, without enabling supports, employees can perceive the additional responsibility as a job hindrance and experience decreased engagement (Van Wingerden et al., 2017; Ventura et al., 2014). The second theme includes strategies for respectively empowering employees with support including (a) delegating ownership of projects to employees, (b) providing resources and opportunities for professional learning, (c) providing resources and opportunities for planning, (d) providing for physical comfort in the work environment, and (e) allowing for uninterrupted work time. Evidence of strategies for empowering and enabling employees to increase employee engagement was present in organizational documentation and participants' responses.

Project ownership. Study participants explained how delegating ownership of a specific project or responsibility to employees increased engagement. Participant 3 explained that having ownership of an IT system results in engagement through increased desire to learn about and make improvements in that system, particularly when leaders align the responsibility with individual employees' strengths. Participant 2 empowered employees through specific decisions regarding project assignments and availability to attend project meetings with employees. Participant 2 also empowers employees to communicate openly with individuals as needed to fulfill their project leadership role successfully. In describing a specific project, Participant 2 stated,

> Sometimes I just make myself unavailable, so she's the one leading it and she has done a fantastic job. And that also gives her the feeling like, "This is mine. This isn't [omitted]. She may be my director, but this is mine and she depends on me." And if I need to, I can pick up the phone and call the chief [omitted] officer and say to him, "Hey, you know, blah blah blah," So I've done that with several of them and several different projects. I've tried to equally spread it out, put people in charge of stuff.

However, Participant 2 cautioned that supervisors must be judicious when delegating responsibility as in some cases it could decrease engagement. When managers assign responsibilities to employees without also providing autonomy, employees could perceive that they are being micro-managed, and experience decreased engagement (Rao, 2017). Also, when employees perceive job demands as hindrances rather than challenges, they experience decreased engagement (Crawford et al., 2010). Finally, a lack of clearly defined responsibilities can contribute to role ambiguity, a job characteristic identified as a hindering job demand that decreases engagement (Saks, 2017). Study participants provide professional learning as one support for empowered employees, as described in the following paragraphs.

Professional learning. Documentation from Organization X including the strategic plan, performance evaluations, and professional growth salary increases for certified and classified staff members demonstrate the system-wide value placed on professional learning. As Participant 3 explained, professional learning is particularly important in the IT department because "In the IT environment, it's always a learning environment. Everything is. I may be wrong, but I feel like this can be more so because technology's changing rapidly all the time." To keep pace with the rapid change of their field, IT supervisors can support employees through providing opportunities and resources for professional learning.

A related learning strategy the IT supervisors in Organization X use to help employees remain engaged in their rapidly changing field is cross-training. In most cases, the cross-training refers to employees within the same job who could have specific responsibilities. For example, Participant 4 explained that while information system personnel can have separate levels of responsibility for customer support and data analysis, they are all knowledgeable about the tasks required of their department. In this way, cross-training resolves the tendency for frustration and disengagement when employees are asked to fill in for an absent colleague without expertise in a given area. Similarly, Participant 2 identified benefits to engagement when employees cross-train on the responsibilities outside of their group. Participant 2 explained that when employees understand the job demands and resources of employees with whom they interact outside of their group, they are better able to support those employees while making better decisions about their work assignments.

Levels of employee engagement vary as employees transition among different roles in a single job with some roles generating engagement for other roles (Saks, 2017). In Organization X, varied levels of engagement among job roles were observed by supervisors as some professional learning opportunities generated increased employee engagement. Participant 3 noted that employee engagement might increase as supervisors delegated areas of responsibility that required employees to increase their professional knowledge-base.

Employees experienced greater engagement with self-selected professional learning related to general work objectives than those that supervisors assigned them. During times when motivating professional learning opportunities were reduced due to budget restrictions, Participant 2 reported noticing a negative effect on employee engagement. Employees who are learning in relation to work activities they enjoy experience increased engagement through flow, or absorption in the task before them (Llorens et al., 2013).

Planning. Another strategy for providing empowerment with support is to provide resources and opportunities for planning work. As the strategy, structure, and processes surrounding IT supported systems shift towards solutions increasingly provided by external vendors, IT professionals need expertise in delivering and supporting solutions in alignment with organizations' strategic goals (Krimpmann, 2015). Leaders and employees within Organization X are guided by a collaboratively created strategic plan. Information located in newsletters from Organization X illustrate how IT employees are delivering successful technology solutions through planning and communication with stakeholders, such as the recent change to email addresses as result of the change to a different cloud-based email provider. Participant 1 emphasized how aligning operational planning can help employees connect their work objectives with organizational goals and deadlines, an idea closely related to the theme of connecting work with meaningful purpose. Participant 4 also reinforced the connection between resources for planning and employee engagement. IT employees demonstrated increased engagement and productivity when Participant 4 introduced new tools for documenting and following the department's plans.

Comfortable work environment. Maslow (1943) identified physical needs and safety as basic needs of every individual. Employees with job demands such as an environment that is physically demanding or uncomfortable experience decreased engagement (Saks, 2017). In Organization X, documentation including policies, websites, and employee performance evaluation included consideration for safe and comfortable work environments. For example, an employee who "models safe work habits" and also "encourages and supports others to be safe at work" can earn the label of excelling in the

Safe Work Habits performance area. Study participants also mentioned ensuring a safe and comfortable work environment as a strategy for increased employee engagement.

Study participants 1 and 2 provided specific examples of how a comfortable work environment increased employee engagement. Participant 1 explained that employees had suggestions about repurposing some unused space to accomplish a task previously performed in a warehouse. By listening to and acting on this proposal, Participant 1 provided a more comfortable work environment as the warehouse had not been air conditioned and employees often performed this task during the summer heat. Participant 1 explained that though the suggestion had meant a change of course from previous operations, it "…made all the sense in the world, and so we did it and increased their productivity and their throughput was double." Participant 2 explained that, in addition to being allowed to perform specific tasks at home when they required an absence of background noise, employees had access to desks that could lower and raise to a sitting or standing height. Employees could also choose to make use of a stair climber while working. Participant 2 noted that these options in the work environment had increased employee engagement.

Uninterrupted work time. Similar to a physically comfortable working environment, study participants increase employee engagement through strategies to provide uninterrupted work time. In the case of the development team, the supervisor ensures uninterrupted work time through directing support requests for internal applications to a help desk. Another study participant explained that employees were permitted to work from home on tasks that required a quiet environment such as voice recordings for demonstration videos. On another team, employees divide the work of customer support and data analysis to ensure everyone can perform those tasks that require concentration without interruption. However, this division of labor would not be possible without an adequate number of employees. Participant 4 explained that the decision to add another employee when the workload of a team did not allow for uninterrupted work time enabled division of labor and increased engagement.

When implementing strategies for providing uninterrupted work time, study participants must still work within the policies and regulations of the organization. Organization X does not currently have a formal governing board policy related to working from home, though there could be cultural norms, and many of the jobs within the organization require on-site physical presence. Also, the collaborative budget recommendation process in Organization X includes recommendations about position staffing increases or decreases in various departments, as supported by governing board documentation. Therefore, the decision to add a staff member might not have been possible without a currently open position on another team that the supervisor reallocated. This model of shared decision making within the limited organizational resources illustrates the confines within which leaders must work to deploy engagement strategies.

Through their implementation of strategies to empower employees with support, study participants not only create opportunities for employee job crafting but also provide resources employees can use to meet the demands of their job. By empowering employees, leaders increase employee engagement as autonomy is a type of job resource

(Schaufeli et al., 2002). Leaders who empower employees also provide opportunities for more extensive use of personal resources through job crafting (Xanthopoulou et al., 2013). Each of these strategies, provided by study participants and supported by organizational documentation, could increase employee engagement through empowerment and enablement.

Theme 3: Connect Work with Meaningful Purpose

The third theme that emerged through the data analysis process was that of connecting work with meaningful purpose. As Wrzesniewski et al. (2013) explained, employees are engaged when they perceive work as worthwhile. Motivation is a critical component of employee engagement, and intrinsic motivation contributes more to employee engagement than extrinsic motivation (Delaney & Royal, 2017). Managers in the public sector who help employees see connections between their work and a shared mission can increase employee engagement through employee motivation to persevere in serving the public (Yanchus et al., 2013). Specific strategies that emerged and align with connecting work with meaningful purpose include (a) connecting the work of each employee to meaningful organizational goals, (b) aligning work assignments with individual interests and strengths, and (c) demonstrating appreciation.

Alignment with organizational goals. The first strategy aligned with connecting work with meaningful purpose was to align employee tasks with organizational goals. When employees in the public sector have leaders who help them associate their job with societal benefits, employees also experience increased engagement (Ugaddan & Park, 2017). Participant 1 indicated that although it can take longer to see results, “people don’t feel engaged if they don't feel that what they are doing is somehow an important contribution to the organization." A transformational leadership style, in which leaders motivate employees through an aspirational shared vision, contributes to increased employee engagement as well as a service orientation in the workplace (Popli & Rizvi, 2017). Through their efforts to connect employees' work tasks with organizational goals, the leaders in this public sector organization capitalize on transformational leadership practices to engage employees.

Communication at the organizational level as well as the supervisory level is an important tool for engaging employees (Kang & Sung, 2017). At the organizational level, communications including news releases, newsletters, annual reports, policies, regulations, and evaluation materials included a consistent message regarding the mission, vision, and goals of the organization. In fact, the role of IT staff is critical to a January 2017 governing board report in which an external accreditation team encouraged "…implementing change related to technology and making the digital world part of what [Organization X] does." In addition, supervisors emphasized the importance of communication to help IT employees make connections between their work and organizational goals.

In addition to emphasizing how important a shared vision was for employee engagement, Participant 1 described how employee engagement was maintained even during times of uncertainty and change by helping employees see how their work connected with shifts in organizational goals. Participant 1 also observed a connection between increased productivity and organizational goals as high priority work sometimes required employees to stretch themselves. Participants 2 and 3 further connected meaningful work to improving team cohesion and providing opportunities for staff members to support one other.

Alignment with interests and strengths. Study participants included alignment between individual interests and strengths as a motivating factor that increased employee engagement. When employees are assigned tasks aligned with their interests and strengths, researchers have noted that employee engagement increases over time in relation to increased perceived self-efficacy (Consiglio et al., 2016). Even when assigned tasks are challenging, employee engagement increases when the tasks align with individual strengths (Rao, 2017). Study participants indicated that a benefit of forming relationships with employees and knowing them as individuals was the ability to increase engagement through work assignments aligned with employees' interests and strengths.

As technology rapidly evolves, IT staff in Organization X are challenged to keep pace with updates to existing technology as well as the implementation of new products. Participant 3 provided examples of delegating responsibility for new products to individuals who had a related interests or strengths. Employees put forth the extra effort needed to develop expertise in that area and successfully implement and administer critical technology systems. Participant 4 described an iterative process in which individual employee responsibilities evolved to those self-selected responsibilities that led to the best levels of employee engagement while meeting stakeholder needs. This alignment approach is supported by research as employees experience increased engagement through the opportunities to use strengths and preferences in the workplace (van Woerkom et al., 2016).

Demonstration of appreciation. As illustrated in Table 1, documentation reviewed from Organization X yielded the highest support for the theme of connecting work with meaningful purpose. In addition to a consistent focus on organizational goals, the documentation provided a significant number of references to demonstrations of recognition and appreciation. In addition to documentation, video of messages from the superintendent of Organization X included both general and specific messages of thanks to employees. Organization X provides opportunities for leaders as well as coworkers to formally and publicly acknowledge the contributions of employees as well as other stakeholders including students and community members. Brajer-Marczak (2014) conducted a review of employee engagement literature and concluded that appreciation, along with trust, autonomy, proper assignment of tasks, and environmental features, were among eight of the critical components for developing and maintaining employee engagement.

For study participants, demonstrating appreciation was closely linked with employee engagement by connecting employee tasks to meaningful work. Because many IT employees did not have occasion to hear from others about their work unless a technology system or device was not functioning correctly, their leaders believed it was important to demonstrate appreciation regularly. Participant 1 provided the example of the data team that consistently maintained clean data and accurate state reports critical to the funding of Organization X. Participants 2 and 3 described developing relationships of mutual respect in which employees knew their contributions were appreciated.

By connecting work with meaningful purpose, study participants provide the necessary job resources as well as opportunities for job crafting. These practices were supported by documented organizational policies and procedures within Organization X. By providing aspirational communications, business leaders can increase employee engagement (Azoury et al., 2013). As employees are able to craft their jobs to align with positive and aspirational views of themselves, their engagement increases (Wrzesniewski et al., 2013). Public sector employees in particular experience increased engagement as they connect their job with service to the public (Yanchus et al., 2013). Through developing, communicating, and implementing strategies aligned with the theme of connecting work with meaningful purpose, study participants exemplified how leaders can engage IT employees to meet the demands of their job in the public sector.

Connection to Conceptual Framework

The conceptual framework I selected for this study is the job demands-resources framework. Within this framework, researchers identified increases in employee engagement when job demands were perceived as relevant challenges but decreases in engagement when job demands were viewed as hindrances (Crawford et al., 2010; van Woerkom et al., 2016). Employees with resources in the workplace experience increased engagement (Bakker, 2011; Saks, 2017). Employees also experienced increased engagement when able to craft their jobs such that employees could apply personal resources in the workplace (Bakker & Xanthopoulou, 2013; Van Wingerden et al., 2017).

The themes I identified in this study connect to the job demands-resources framework as they identify specific job resources as well as strategies for helping employees perceive job demands as key challenges rather than hindrances. Positive relationships in the workplace, including those with supervisors, are resources employees rely on to meet the demands of their jobs (Bakker, 2011; Wrzesniewski et al., 2013). One strategy for addressing this first theme was to develop trust between employees and supervisors which Garrick et al. (2014) identified as a *job resource*.

Another job resource is autonomy, or empowerment, in the workplace (Crawford et al., 2010). The theme of empowerment with support provides specific strategies study participants used that helped employees perceive job demands, such as being delegated responsibility for a specific IT system, as a challenge rather than a hindrance. These strategies align with supporting job resources such as opportunities for development and positive attributes of the workplace environment.

Finally, the theme of connecting work with meaningful purpose is also aligned with identified job resources. Employees use the connection between work and aspirational goals as motivating job resources (Wrzesniewski et al., 2013). Bakker (2011) identified constructive supervisor feedback as a job resource related to increased employee engagement. As supervisors provide feedback by demonstrating appreciation, a strategy shared by study participants, supervisors can increase employee engagement. In addition to alignment with components of the job resources-demand framework, I have identified important potential applications of these study results to professional practice.

Applications to Professional Practice

Strategies that public sector business leaders use to increase productivity through engaging IT employees have direct applications to professional practice. Employee engagement is related to organizational performance and profitability (Anitha, 2014; Kumar & Pansari, 2014), and engaged employees demonstrate positive organizational behaviors in the workplace (Rana et al., 2014). Through employee engagement, business leaders capitalize on continuous improvement of practices to improve organizations' performance (Brajer-Marczak, 2014). Business leaders need strategies for improving productivity and organizational effectiveness through employee engagement (Kumar & Pansari, 2016; Valentin et al., 2015). The themes identified in this study are research supported and have applications within professional practice.

The first theme identified in this study is that of developing positive relationships in the workplace. Positive relationships with supervisors and colleagues serve to increase employee engagement as resources employees can use to improve self-efficacy and overcome challenges (Consiglio et al., 2016; Saks, 2017). In the second theme, empowerment with support, supervisors delegate responsibility to employees and provide them with both autonomy and resources to complete their assignments successfully. Researchers have noted the positive relationship between empowerment and engagement (Breevaart et al., 2014; Karatepe, 2013; Menguc et al., 2013). When supervisors provide employees with autonomy and support, employees could achieve a state of productive absorption known as *flow* (Peters et al., 2014). The third theme identified in this study is to connect the work of employees to meaningful organizational goals. As employees believe their work is of value and has personal meaning, employees are intrinsically motivated and engagement in the workplace increases (Breevaart et al., 2014; Claxton, 2014). By applying these strategies, business leaders can realize the productivity and performance benefits related to increased engagement.

Although the challenges faced by business leaders in the public sector differ from those in the private sector, recommendations from this study could increase employee engagement in both sectors. Some researchers have noted differences in engagement levels between employees in public versus private sectors (Agyemang & Ofei, 2013; Vigoda-Gadot et al., 2013; Yanchus et al., 2013). However, researchers have demonstrated common job resources and demands related to engagement across sectors (Bakker & Xanthopoulou, 2013; Yanchus et al., 2013). In either sector, leaders who wish to benefit from employee engagement might choose to develop and implement strategies aligned with the themes of this study and monitor results for achieving continuous improvements in employee engagement and performance.

Implications for Social Change

Although the purpose of this qualitative single case study was to explore the strategies that public sector business leaders use to increase productivity through engaging IT employees, this research has implications for social change. Researchers have suggested organizations can improve the lives of their employees beyond the workplace by enhancing work engagement (Daniel & Sonnentag, 2014). Also, researchers discovered that factors in the workplace which increase employee engagement also decrease fatigue and improve overall employee well-being (Garrick et al., 2014). Furthermore, engaged employees demonstrate better mental health than their nonengaged peers who are more likely to suffer the negative physical effects of exhaustion and burnout (Bakker, 2011; Diedericks & Rothmann, 2013). The three themes I derived from the data within this study include strategies that could positively affect social change by helping employees avoid exhaustion and job burnout, so employees have a greater capacity to care for their families, friends, and communities.

In this study, I highlighted strategies IT leaders use to increase engagement through developing positive relationships, providing empowerment with support, and connecting work with meaningful purpose. As noted by study participants, employee engagement decreases when employees have negative workplace relationships, which could contribute to burnout and derivative negative effects outside of work. In the theme empowerment with support, the strategy of providing a comfortable work environment corresponds to physical health and decreased fatigue. As employees are empowered and supported in the workplace, employees could experience not only decreased fatigue but also increased self-efficacy when faced with challenges in their homes and communities outside of work. Employees who connect their job with meaningful purpose also increase self-efficacy. As employees believe they are completing work associated with the organizational goals of a public sector organization, they could experience improved mental health as employees observe how their work benefits their communities. Each of these themes related to employee engagement could increase the ability for employees to care for family, friends, and their communities as they experience less burnout and better health.

Recommendations for Action

Each emergent theme within this study includes specific strategies to improve engagement among IT employees. To develop positive relationships in the workplace, IT leaders should get to know employees as individuals and demonstrate concern for the employees' well-being. Jin and McDonald (2016) identified a relationship between highly engaged employees and positive relationships in which employees perceive supervisor support. IT leaders should also foster positive relationships among employees through cross-functional working teams within and between departments. By empowering these working teams, and individual employees, IT leaders demonstrate trust. Shared decision making is another strategy IT leaders should use to increase engagement through building trust and positive relationships. Positive relationships and trust in the workplace are environmental supports related to employee engagement (Hollis, 2015; Peters et al., 2014). Employees experience increased engagement when they are involved in making decisions that affect them (Jose & Mampilly, 2014).

IT leaders should empower and enable employees by providing the following supports for employees to be successful in their work assignments. IT employees should have the option to exercise autonomy within their delegated areas of responsibility. Also, employees need access to opportunities and resources for development to ensure success maintaining current skills and meeting the challenges of their assignments. Bakker (2011) identified autonomy and opportunities for development as resources that increase employee engagement. Providing professional learning opportunities will be more likely to increase engagement if the IT employee views them as helpful for meeting job expectations. This recommendation aligns with the effect of greater self-efficacy to improve employee engagement as employees perceive job demands as challenges rather than hindrances (Ventura et al., 2014). IT leaders should also provide resources to enable employees to relate and align work plans with aspirational organizational goals. Sparrow (2013) connected planning and goal alignment with the strategic and coaching roles of supervisors to increase employee engagement. To maintain employee engagement, IT leaders should allow access to comfortable work environments and the opportunity for uninterrupted work time. Employees who do not have the necessary environment to address assignments experience decreased engagement and burnout as a result of these job demands (Gan & Gan, 2014).

To engage IT employees in the public sector, leaders should connect work with meaningful purpose. As the responsibilities of IT employees vary, IT leaders will need to individualize the connections between employee assignments and the shared vision of the organization. By connecting their work to a meaningful purpose, employees can experience increased engagement through dedication to both tasks and the organization (Ibrahim & Falasi, 2014). IT leaders must also consider individuals' strengths and interests when assigning specific responsibilities as such alignment can increase engagement. Finally, IT leaders can strengthen employees' connections to work by demonstrating a genuine appreciation for the work of IT employees. Employees focused on using strengths in the workplace experience increased engagement (van Woerkom et al., 2016) as do employees who have opportunities for recognition of their efforts (Ibrahim & Falasi, 2014).

Although business leaders across both public and private sectors might increase employee engagement through the implementation of these strategies, leaders in the public sector responsible for IT employees should particularly review this study’s findings, conclusions, and recommendations. Furthermore, senior leadership and human resources leadership of public sector organizations responsible for the policies and procedures of the organization should review this study’s results. If organizational systems and policies do not align with practices for engagement, disengagement and low performance are more likely to result (Alagaraja & Shuck, 2015). As senior leaders design performance systems for IT leaders, integrating development and evaluation systems aligned with these strategies could improve the ability of IT leaders to engage employees.

Senior public sector leaders, as well as IT and human resource leaders, participate in conferences and read journals and trade magazines meeting their needs. I intend to share these results through presentations for organizations such as the Arizona School Administrator Association, Arizona Association of School Business Offices, and the Arizona CIO/CTO conference. Potential publications of results include *Future Structure*, *American Review of Public Administration*, and the *International Journal of Public Sector Management* as these publications provide information by which public sector leaders can improve organizations’ performance benefitting employees, families, and communities.

Recommendations for Further Research

The purpose of this research study was to explore the strategies that public sector business leaders use to increase productivity through engaging IT employees. While I gathered information from successful IT leaders and organizational documentation, future researchers could collect information from IT employees as well. Although IT employees might not have profound insights into the strategies their leaders implement, they could provide information suggesting the engagement strategies which are most effective.

A limitation of this study was the limit to transfer findings beyond the single case explored and the geographic area. Additional research could include multiple public sector organizations. Also, exploring public sector organizations among states could provide additional insights. While the resources of public sector organizations within a single state could be consistent, researchers might find increased variability among states.

Although I performed this research within a public sector organization, similar strategies could be effective for IT employees in the private sector. Researchers exploring strategies for increasing productivity among IT employees in the private sector could identify and explore similarities and differences from this study's themes and strategies. Implementing these recommendations for future research could indicate whether or not the findings apply to domains beyond my case.

Reflections

As an undergraduate, I first set a personal goal to perform independent research and obtain a doctoral degree while assisting professors in the college of education. At the time, I could not have predicted the circuitous route through education and IT to serving in a leadership role focused on innovation that would bring me to this point. However, I do see a consistent focus on motivation throughout my career. I have consistently been interested in strategies that increase engagement in learning or work tasks performed by either students or employees. The opportunity to spend time immersed in employee engagement literature, while working professionally in a role that requires that I focus on engaging both adults and students in learning, was enriching. I have benefited from observing multiple connections between my academic research and professional roles.

However, at times it was challenging to make progress on my study while maintaining full-time employment in a demanding professional role. Fortunately, I was able to take time away from work intermittently to focus on the task of preparing for and conducting a qualitative research study. During the data collection and analysis process, I appreciated having time away from work to maintain focus on my study. Connecting with practitioners through the interview and member checking process was an unexpectedly illuminating experience. I was surprised how much I enjoyed hearing and contemplating the information study participants shared as I made mental connections between what they were saying and what I had found in my research of the employee engagement literature. I periodically reflected on my personal bias towards the efficacy of intrinsic motivation as I reviewed data. Though I proactively sought examples of strategies aligned with extrinsic motivation in the responses of study participants, the research and data predominantly supported the relative strength of intrinsically motivating strategies.

The process of analyzing and organizing the findings was an experience of convergent and divergent thinking that was sometimes frustrating, but mostly exciting. I ascertained that performing qualitative research, and the process of connecting information into cohesive themes, was an interesting contrast from the quantitative process of looking for patterns and trends in numerical data. I appreciate the professionals who were willing to share their experience and expertise through the formal process of conducting qualitative research and hope one day I will have the privilege of assisting other researchers.

Conclusion

Engaged employees contribute to business success and productivity. IT employees face specific challenges related to their roles including problem-solving in high-stress situations and staying current with rapidly changing technologies. In the public sector, leaders must engage employees using the resources available to them, which could include a connection with altruistic goals serving the common good. Through data collection and analysis within a single public sector organization in Arizona, several themes emerged including strategies leaders use to engage IT employees. I identified three themes contributing to employee engagement: (a) developing positive relationships, (b) providing empowerment with support, and (c) connecting work with meaningful purpose. Managers can use the strategies within these themes to realize the benefits of employee engagement. Communities would benefit as engaged employees are less likely to suffer exhaustion and burnout, and are better able to meet families' and communities' needs.

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Appendix A: Interview Protocol

The Interview Protocol indicates the steps to be conducting before, during, and after the interview. Unforeseen circumstances may require deviation from the protocol, but every effort will be made to follow the procedures outlined below. A follow-up interview may be requested if the initial interview did not allow sufficient time for all questions or to provide additional clarification.

Prior to the interview, the researcher will

- provide a copy of the interview protocol,
- schedule a time and place to conduct the interview, and
- answer any questions the participant may have regarding the interview process.

During the interview the researcher will complete the actions and script indicated below.

Action	**Script**
Introduce the interview Reference consent form Answer questions	*Thank you for agreeing to participate in this interview today. I appreciate your willingness to share your expertise with me as part of this applied business research project. As a reminder, your participation in this research project is voluntary and can be withdrawn if desired. Also, your participation is confidential and responses will be anonymously represented in the study. As a reminder, here is a copy of the consent form sent to you previously for your review and consent via email.*
Obtain permission and begin recording	*While you are talking, I may write notes in my journal. Please continue speaking as I will be listening even if I do not maintain eye contact. As previously mentioned, I would like to digitally record our conversation to ensure I can accurately represent the information you share. May I record our conversation?*
Observe non-verbal communication Paraphrase for understanding Probe for clarification and detail	*I have seven interview questions, but today we will adhere to the one hour time frame whether or not we finish all questions.* *1. How do you know whether or not IT employees are engaged?* *2. What strategies have you employed that seemed to result in increased engagement among IT employees?* *3. What engagement methods worked best to increase productivity among IT employees?* *4. What strategies have you, or another IT manager you*

	observed, implemented that resulted in decreased engagement among IT employees? *5. How do your strategies for increasing employee engagement help IT employees meet the challenges of their role?* *6. How do your strategies for increasing employee engagement provide autonomy and opportunities for employee development?* *7. What else would you like to share with me about strategies IT managers use to increase engagement among IT employees?*
Conclude interview	*Thank you again for your thoughtful responses to these questions. After I have had a chance to review and document my interpretation of your responses, I will share the information with you so you have an opportunity to clarify, correct, or expand upon your responses.*

After the interview, the researcher will

- thank the participant for participation,
- provide a written copy of paraphrased comments for verification and feedback (member checking),
- schedule a follow-up interview (if necessary),
- verify feedback has been appropriately incorporated into paraphrased comments,
- provide notification of study publication,
- securely store all data for five years, and
- destroy data five years after study publication.

Appendix B: National Institute of Health Research Certificate

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Michelle Benham** successfully completed the NIH Web-based training course “Protecting Human Research Participants”.

Date of completion: 03/13/2015

Certification Number: 1722054

Appendix C: Letter of Cooperation

[redacted]

[redacted]

Director of Research

[redacted]

May 12, 2017

Dear Michelle Benham,

Based on my review of your research proposal, I give permission for you to conduct the study entitled "Strategies to Improve Employee Engagement among Public Sector Information Technology Employees" within [redacted]. As part of this study, I authorize you to engage in the activities listed below. Individuals' participation will be voluntary, at their own discretion, and they may withdraw at any time.

- Communicate with potential participants within the Information Technology department to request voluntary participation;
- Conduct and record audio of face-to-face interviews up to an hour in length with study participants;
- Review organizational documents provided by study participants related to strategies for employee engagement and not containing any student data;
- Follow-up with study participants for clarification and member-checking regarding the interpretation of their interview responses and provided documentation;
- Provide a summary to the Chief Information Officer, Department of Research, Council, and school governing board regarding research themes identified and their relation to current academic research.

We understand that our organization's responsibilities the items listed below. We reserve the right to withdraw from the study at any time if our circumstances change.

- Contact information and access to potential participants within the Information Technology department;
- Access to facilities for the purpose of interviewing volunteer study participants;
- Access to non-confidential documentation provided by volunteer study participants.

The doctoral student, Michelle Benham, will be responsible for complying with our site's research policies and requirements, including *Describe requirements*.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University Institutional Review Board (IRB).

[redacted]

Sincerely,

[redacted]

Director of Research

Walden University policy on electronic signatures: An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically. Electronic signatures are regulated by the Uniform Electronic Transactions Act. Electronic signatures are only valid when the signer is either (a) the sender of the e-mail, or (b) copied on the e-mail containing the signed document. Legally an "electronic signature" can be the person's typed name, their e-mail address, or any other identifying marker. Walden University staff verify any electronic signatures that do not originate from a password-protected source (i.e., an e-mail address officially on file with Walden).